THE TIMES
Higher Education
SUPPLEMENT

Engineering employers emphasise the practical

by Sue Reid

An expansion of practical university engineering courses integrated with industry is being demanded by the Engineering Employer's Federation in confidential evidence to the Finniston inquiry.

The evidence claims that more able recruits would be attracted into the engineering profession if more practical and integrated engineering courses were introduced and a better career structure in industry promoted.

The EEF has told the Finniston inquiry team, which is examining the engineering profession, that the sandwich course provides the right kind of education and training that is most useful to industry. "It is broadly based and blends industrial experience with academic training."

In a controversial move the federation has also argued that chartered engineer status should be available to engineers with a wider range of academic qualification than at present—not just confined to a degree but to include higher national certificates, diplomas and their replacements currently being designed by the Technician Education Council.

"The present system in certain engineering institutions of having two grades of members—chartered engineer and technician engineer—is to be deplored", claims the EEF. "The inference is that there is a second grade citizen and this will detract considerably in the initial enrollment of competent people to the technician ranks, some of whom may well, in time, be suited to become chartered engineers."

The Federation regrets the blocking of the old route to the members of the professional institutions through the ONC and HNC courses and believes that this should be reopened through the TUC.

The federation, whose evidence concentrates on the problems facing the manufacturing industry, also alleges that many pupils who might have followed this route now entered higher education to read other subjects. The loss to the engineering industry was apparent not only among those who qualified but those who discontinued their studies at ONC or HNC but had in the past remained in the industry to become valuable middle management recruits.

On attracting high level recruits the evidence says: "A major problem is to attract young people of ability into engineering studies. The new total technology courses and those offered by the centres of excellence' set up by the University Grants Committee may help to solve this. . . ."

Finally it points out: "In the past manufacturing industry undertook much research of its own, especially in fields such as armaments and nuclear engineering. The fact that this has now shifted to the public sector and to the research associations is probably one reason why many of the best brains can no longer enter manufacturing industry."



Mrs Williams, Secretary of State for Education and Science, and Lord Donaldson, Minister for the Arts, view a model of the new British Library building.

£74m first stage of new British Library starts next year

by Patricia Santinelli

The long-awaited construction of the new British Library in Euston Road is to go ahead from next year at an initial cost of £74m, Mrs Williams, Secretary of State for Education and Science, announced this week.

The need for the new building, which is to cost £161m over 10 years, has become urgent as many of the present libraries are literally bursting at the seams.

For some time the library has been operating under severe limitations because of inadequate space which has led to the storage of millions of books 10 miles away in Woolwich and to increasingly unsatisfactory conservation conditions.

The need for a new building was first agreed in 1951 and a site designated in Bloomsbury. However, this encountered increasing difficulties over the redevelopment and disturbance involved and lead to a feasibility study with recommendations to build in Somers Town, Euston.

One of the greatest advantages of the new building which is to cover nearly 10 acres is that it will rationalise and bring together the currently fragmented parts of the British Library.

The new site is to house the bibliographic services division, the reference library which includes the science reference library, the Library Association library and the British Library Board. It will also provide room for national museums and art galleries.

It will bring together for the first time humanities and science giving 3,500 readers a greatly enhanced access to 25 million books.

However, completion of the first stage in 1980 will only be a stop gap measure unless remaining building proceeds speedily, the BL is likely to continue facing worsening storage and deterioration problems.

OU drops its 'lowest pass' course

by Robin McKie
Science Correspondent

The problem-plagued engineering mechanics course of the Open University is to be dropped completely next year, despite earlier plans for overhaul. The T231 course, which has had the lowest pass rate of any OU course, will now be replaced by a new rewritten course in 1980.

The move follows differences of opinion between staff in the engineering mechanics discipline and other members of their faculty over the revision work which was being undertaken. It had been intended to offer part of the revised course next year as a new half-credit, but the discipline rejected this.

The rewriting work involved other staff from different disciplines but now the engineering mechanics group have decided the results were not satisfactory. Dr John Case, senior lecturer and former chairman of the T231 course team, said the revision group had been working for almost a year on the project but had only done a very small part of the necessary rewriting.

"They had only done five first drafts and one second draft and there are 16 course units", he said. "We were very disappointed."

The T231 course was first presented in 1975 when the pass rate was 78 per cent. The following year it plunged to 48 per cent and when there was a similar pass rate in 1977, Professor Jack Sparkes, dean of technology, set up a revision team made up of faculty academics and members of the discipline to rewrite the course for 1979.

"The aim was not to change the course itself but to make it more educationally effective", Professor Sparkes said. "This will be done for the course in 1980."

Professor Geoffrey Holigate, the acting head of the engineering mechanics discipline, said he was their unanimous view that the revision work was unsatisfactory.

"We felt we had egg on our face because of the ineffectiveness of the course already and did not want to rush through, when it was still not ready and get even more egg on our face.

"We are not being bloody-minded pedants, trying to get things absolutely right. We want the best for our students, and taking something out of circulation for a year provided enough notice is given, is not an unmitigated disaster."

African decision

London University's court will decide next week whether to withdraw £7m of investments from companies and more than 250 subsidiaries claimed to have a large stake in the South African economy.

A list of the firms and details of their activities are contained in a submission to the court compiled by the students' union. The submission says: "The University of London is a centre of enlightenment and learning, with a multiracial population."

Next Week

Special report on higher education in America.

Charles Carter on "the steady state university".

The Darwin colloquium: lawyers and doctors.

Middlesex Polytechnic profile.

The Oxbridge fee structure examined by Judith Judd.

The future of the University of Rhodesia—the full text of a document by its black academics.

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Staff appeal court ruling

The legality of Huddersfield Polytechnic's governing body is to be challenged for a second time in the High Court following nearly a year of argument about the institution's instrument and articles of government.

Three former staff governors who claim that they were wrongly removed from the governing body last year intend to appeal against an unfavourable High Court ruling two weeks ago. Their appeal is being backed by the National Association of Teachers in Further and Higher Education.

The case comes after fierce disputes between the polytechnic and the local authority about alternative constitutions for the polytechnic. The council proposed a new governing body with additional industrial representatives and fewer staff governors. The governors, students and NATFHE proposed an alternative model with five staff members instead of two.

In the absence of a clear decision by the Department of Education and Science, the polytechnic reverted to the instrument of government in operation in 1974.

Liverpool row goes to DoE

Education officials in Liverpool are seeking advice from the Department of Employment about any influence of the incomes policy which might be involved in a new agreement for college lecturers in the city.

The agreement has been at the centre of a dispute between the city council and lecturers, members of the National Association of Teachers in Further and Higher Education, who have been taking industrial action for some months.

The lecturers insist that the city council has gone back on a promise to implement the agreement in September last year. In protest they have refused to work the 23 teaching hours demanded by the authority, and are abiding by the 21 contact hours in the new agreement.

The latest step follows a suggestion by NATFHE that the authority should investigate whether implementation would involve any breach of the incomes policy.

City council officials are also studying the possibility of instituting High Court proceedings to ascertain whether the authority has any legal obligation to observe the conditions of the new agreement.

Economics unit for Imperial College

Imperial College, London University's biggest science and engineering institution, is to set up a department of social and economic studies next year consisting of the existing industrial sociology unit and a new economics unit.

The move follows a review started in 1975 to consider what subjects other than natural and engineering sciences should be developed at the college. It recommended creating a chair of economics supported by three or four academic staff to form an economics unit.

Professor Dorothy Wedderburn, director of the industrial sociology unit, has been appointed head of the new department. Mr Z. A. Silberston, fellow of Nuffield College, Oxford, has been appointed to the economics chair.

The new department is expected to carry out a substantial programme of interdisciplinary research as well as contributing to the undergraduate and postgraduate engineering and science courses.

Imperial College has been nominated by the University Grants Committee as one of the university centres to offer selected students elite four-year engineering courses.

Industrial link for Oxford

New four-year honours courses in engineering and metallurgy—both linked with the study of economics and management—are to be set up at Oxford University.

An important feature of both courses will involve organised periods of industrial work for students and a final-year project —undertaken under supervision on a six-month industrial attachment —will be used in assessing degree results.

The move to set up the new school follows a call from the University Grants Committee on "the need for innovation in the education of engineers in preparation for careers in manufacturing industry". Oxford University was asked to submit proposals for a four-year undergraduate course "of very high quality with a pronounced orientation towards the manufacturing industry", and the plans have now been approved by the UGC.

The committee said it strongly favoured the Oxford courses and has assured the university of special support for the first four years, both for the cost of setting up the courses and for the establishment of additional academic posts required for them.

Canada export deal held up

by Maggie Richards

An internal wrangle over the use of Open University course materials in Canada is holding up the final signing of the OU's latest export deal.

The row centres around the decision by the provincial government of British Columbia to import the OU system instead of opting for a locally designed scheme. The province is to use OU materials and advisers to establish its own distance learning institution.

Criticism of the deal has come from the province's three universities, especially from the Simon Fraser University, which had hoped to pioneer higher education distance learning in British Columbia.

This week the OU answered claims that its courses were not designed specifically for the province's students, and so would not adequately meet their needs.

A spokesman at Milton Keynes said the OU's consultancy agency, the Centre for International Cooperation and Service, had been assisting with many overseas distance learning schemes. A project in Iran was just on the point of completion, while another in Venezuela was beginning.

In the United States an increasing number of institutions were using OU materials, and last year had marked the graduation of the first students to obtain their degrees solely through the use of OU material.

A letter of intent, to which the Open University and the provincial government in British Columbia were both party, allowed for the involvement of any programmes which the province's education ministry wished to incorporate.

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Lecturers get guide against racialism

by Maggie Richards

A positive stand on racialism is being taken by the national executive of the National Association of Teachers in Further and Higher Education, which this week issued to its members a five-point guide for tackling incidents in colleges and polytechnics.

Last Saturday the executive also voted overwhelmingly to urge local officials to take action to restrict the use of higher education institutions by racialist groups.

The guide has been compiled by members of the association's new race relations working group, which was established in February. The guide was adopted by the executive at Saturday's meeting.

The document sets out five guidelines for NATFHE members to follow if they encounter racialist material:

- Members should immediately contact the association branch secretary who, with another branch official, should present the offending literature to the principal and request that the local education authority be informed.
- The NATFHE branch should discuss the issue at the earliest possible moment. Contact should be established with the local liaison committee, regional officials and NATFHE head office.
- The principal should be asked to prohibit distribution of the material involved. Advice is also given if staff, students or members of the public are involved.
- It is believed that an offence of incitement to race hatred has been committed, contact with the police should be made through the local liaison committee. Members are advised to contact head office if it is intended to report the case to the Director of Public Prosecutions or the Commission for Racial Equality.
- The liaison committee or branch officials should have talks on restricting the use of buildings by organizations expressing racialist views to the legal obligations involved in local and parliamentary elections.

This final point was also included, in a motion put before Saturday's meeting of the NATFHE executive. The motion, which was agreed, reaffirmed the association's determination to oppose discrimination in education, and reiterated its total opposition to all forms of racialism.

In approving the motion, the executive also adopted the guidelines, and advised liaison committees and branches to begin negotiations on restricting the use of premises.

Mr Mick Farley, chairman of the association's new race relations working group, said there were sound reasons for producing a guide.

"Quite clearly the National Front sees young people, particularly the 16 to 19-year-olds, as potential recruits to its organization, and that is a matter of great concern to us", he said.

In the latest edition of the NATFHE Journal Mr Farley writes about the issue and urges all further education teachers to oppose organizations which aim to promote racial hatred.

Polys picked to do elite degree courses

by Sue Reid

Five polytechnics have been selected by the Government to offer specialist management-orientated engineering degrees alongside nine universities.

Manchester, Portsmouth, North East London, Sheffield and Hatfield Polytechnics have been chosen to offer the four year degrees, which are geared to manufacturing industry's needs, for their strengths in engineering and related disciplines. They will compete for high calibre students with Oxford, Cambridge, Birmingham, Brunel, Strathclyde, and Manchester universities, the University of Manchester Institute of Science and Technology, Queen's University, Belfast, and Imperial College, London.

In related initiative the DES this week also announced details of its scholarship scheme to "encourage students of exceptional ability to enter the world of industry through the engineering and allied professions".

About 100 scholarships, worth £500 a year each, will be offered in the next academic session. Successful candidates will be selected by a special action committee headed by Mr Oscar Hahn, director of Guest Keen & Nettlefolds Ltd. the giant British-based engineering concern.

The DES said that the scholarships will be jointly supported by industry and Government and their high status would be recognized by the students' union. The submission says: "The University of London is a centre of enlightenment and learning, with a multiracial population."

continued on back page

SSRC soldiers on with plan for 'British Brookings'

by Peter David

The Social Science Research Council is to persist with plans to establish £5m "British Brookings" despite this week's merger between two existing bodies to create a Policy Studies Institute of their own.

Mr Derek Robinson, chairman of the SSRC, said the amalgamation of the Centre for Studies in Social Policy (CSSP) and Political and Economic Planning (PEP) had not changed his view that there was a need for a new sort of institute designed to bring academic expertise to bear on government decision-making.

He pointed out that a SSRC committee last year rejected the idea of creating such an institute by merging existing bodies. Confidential discussions were still in train to raise "a considerable amount of money" for a new institute. The SSRC has already agreed to earmark £2m for a policy studies institute, provided an additional £3m can be raised from private sources.

Mr Robinson said this week that a Ford Foundation offer of £1m for the project still stood if British sources could raise enough money to give the institute a guaranteed base for 10 years.

But Sir Monty Finniston, chairman of the newly formed Policy Studies Institute, said the creation of a separate British Brookings would weaken existing institutes.

The PSI is expected to have a total budget next year of more than £1m. Staff from the CSSP and PEP are to move to new premises in Whitehall.

A wide field of political, social and economic issues will be studied by the institute. They include demography, employment, industrial policy, urban planning, social services, equal opportunity, the family, social security and pensions. It also intends to set up a European Centre for Studies in Democratic Politics and an educational policy unit in collaboration with the University of Lancaster.

Sir Charles Carter, Lancaster vice-chancellor and chairman of the institute's management committee, said the institute might need to grow bigger, but it was more important to concentrate on the quality of research.

Mr John Pinder, director of PEP, will become director of the new institute. His deputy will be Professor Michael Fogarty, acting head of the CSSP.

The Centre for Studies in Democratic Politics will be run under the aegis of the PSI with a budget of £100,000 and six research staff headed by Professor Roger Morgan, head of European studies at Loughborough University.

Plans for the educational policy unit are less well advanced. The aim is to set up a joint research programme with Lancaster University under a special advisory council. Eventually more than 15 researchers will be involved in major studies of the impact of demographic changes and the aftermath of comprehensive school reorganization.

N+F-A=lower standards, SCUE says

by Judith Judd

Universities stated their opposition to the replacement of A level by N and F level examinations in papers on physics and English released this week.

The two papers, produced by working parties of the Standing Conference on University Entrance, express fears for university standards if the new examination system is introduced.

Under it sixth-formers would study five subjects, three at N or Normal level and two at F or Further level instead of the present three A levels.

The English working party says: "We recognize the need for and the value of continuing creative change, but we cannot contemplate a reduction in the standard of final honours attainment. If we were to accept candidates with F level and a spread of five subjects at 18 plus we should be doing what the Scottish universities have long done and it would be necessary to seek the introduction of a four-year degree course."

The paper on physics says that for university physics and for many engineering courses P-level mathematics will be essential. This means that a student must do physics and mathematics for his two F levels.

"If university departments try to maintain the two F-level requirement for entry then it will be a severe constraint on sixth-form work. However, it is possible that recruitment pressures will mean that all but the most important courses will have to abandon it: if this were to lead to many physics students entering on the basis of N levels in mathematics and physics the effect on university work would be serious."

As an alternative to the N and F scheme, the working party, chaired by Professor F. J. Black from Chelsea College, suggests three special subjects involving 70 per cent of the work required for A level and two more of 45 per cent A level.

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Claim held up again

The Government has asked for a pause in negotiations with university teachers while it examines the effects the rectification of their pay anomaly would have on other pay settlements. It has also reaffirmed its promise that the anomaly will be put right. An emergency council of the Association of University Teachers meets in private in London tomorrow to discuss this development.

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Scots to press for more working class students

The Association of University Teachers in Scotland is planning to press the Government to take steps to increase the proportion of working class students entering university.

A meeting of the AUT's council in Edinburgh last weekend passed a motion calling on the Government to make adequate resources available at school level to encourage pupils from a "manual worker background" to go on to university.

Proposing the resolution, which will now be considered by the Scottish AUT's executive, Mr Maurice Green of Strathclyde University, claimed that the number of mature students entering university was not in dispute. The concern surrounded students from working class backgrounds who left school and did not try for university. students at university did not reflect the potential that existed.

He maintained that the solution did not lie with the universities but that the AUT could play a part in persuading the Government to increase its commitment to primary and secondary education.

An amendment urging the inclusion in the motion of an acknowledgement of Scotland's tradition of university education "unhindered by class barriers" was defeated by a two to one majority.

The meeting also referred a second motion demanding a special conference to consider the present and future role of universities in Scotland. Mr David McNamee, of Glasgow University, proposing it, alleged that the west of Scotland presented a picture of the "archtypal Euro slum" and many students from this background suffered a cultural shock on entering university.

Mr Malcolm Rifkind, Conservative MP for Edinburgh Pentlands, praised the AUT's "extreme moderation" in pursuing the rectification of their salary anomaly created by the Government's pay policy. He maintained that the agreement reached between the Government and the firemen could prove favourable to the AUT.

Mr Rifkind backed the AUT's position on devolution. The universities' intake was drawn from throughout the United Kingdom and from overseas and this distinction had always been recognised.

He said it would be advisable for universities to try to reverse the trend of financial dependence on central government.



Mr Roy Jenkins, president of the Commission of European Communities, has officially opened Newcastle Polytechnic's new nine storey library building, left, which includes a European Documentation Centre. Mr Jenkins, pictured above, inspected the facilities after the official opening with Professor Keith Harris, the polytechnic librarian (left), and Council Derek Webster (right), chairman of the polytechnic council.

PAC told of £4m savings bid

by Patricia Santinelli

Students leaving higher education are to be deprived of the Employment Transfer Grant in an attempt by the Manpower Services Commission to save £4m, the first public meeting of the Committee of Public Accounts heard this week.

Sir Kenneth Barnes, accounting officer for the Department of Employment, said students who had left higher education in the previous six months were in one category which would no longer be eligible for grant in aid. Mature students would continue to be helped.

"Students coming out of higher education are much more likely to accept mobility and therefore are not likely to need assistance", Sir Kenneth said, giving evidence to an all-party committee which is examining the Manpower Services Commission's expenditure on employment and training services.

He told the committee, chaired by Mr Edward du Cann, Conservative MP for Taunton, that following the review of the Employment Transfer Scheme, it had been decided to restrict the number of candidates eligible for aid. This would greatly reduce the cost of the scheme, at present amounting to £12m.

The scheme is administered by the MSC and provides financial assistance to workers moving to jobs in other areas. A recent survey has shown that a high proportion of people in receipt of a sistance would have moved without it and that about one-fifth of the recipients, many of them young and single, later came back to the original areas.

One implication was that the scheme should be made more selective by excluding the more mobile groups, such as single young people.

The CPA is to meet again to discuss the MSC's expenditure on the Job Creation Scheme. The report of Sir Douglas Henley, the comptroller and auditor general, points to some administrative weaknesses in the programme which if examined would help the new schemes, the Youth Opportunities Programme and the Selective Temporary Employment Programme, which are to replace it.

Marxists now 'infiltrating reading lists'

by Owen Surridge

Reading lists at universities and polytechnics are being shaped to promote the viewpoint of the extreme left-wing according to Professor Brian Cox of Manchester University. He told a meeting of the National Council for Educational Standards in London on Sunday that Marxists running courses gave themselves away by their reading lists.

Warning that Marxists had begun to infiltrate the universities in a new way, by way of their literature, the professor said the Left would always try to present their case by arguing that we lived in a period of pre-revolutionary change.

The idea of crisis was a recurring phenomenon with the Left: "The moment one of their ideas is proved wrong they will immediately find another, leading to the idea that we have to get out of the situation by something extreme, even violent." It was a most dangerous tactic and very popular with Marxists running courses.

Their influence was often writ large in their course reading lists, he said, which ignored the literature that did not support their own point of view. "There is, in fact, plenty of alternative literature. It is just a matter of getting the young to read it."

Claiming that the same was also true to some extent of the Certificate of Secondary Education, Professor Cox said the trend towards teacher controlled examinations should be resisted. The real need was for more externally controlled examinations, where traditional values were more likely to be upheld.

The worrying thing was that neo-Marxists had moved into the vacuum left by others' abnegation of authority: "We have to fight for adult-controlled education."

Professor Julius Gould, of Nottingham University, made a vigorous rebuttal of criticisms levelled against his report, *The Attack on Higher Education*, which claimed to expose the extent of Left-wing infiltration. Among the most telling counter-blasts, he said, was the admission from Professor A. H. Halsey that during the 1960s it was impossible for those who were not Marxists to get a job in some academic circles.

He said the obloquy drawn by the report was to be expected. It called only for vigilance, "for what is lawful may also be educationally and politically obnoxious".

Put more beef into practical side, business conference told

by Robin McKie

Radical proposals for improving relations between higher education and industry were put forward last week by Professor David Weir, dean of the Scottish Business School and a member of the Finniston committee inquiring into the education of manufacturing engineers. Speaking at a "Business Scotland" conference in Glasgow, Professor Weir said both sides failed to have realistic expectations of each other's requirements.

"When we look at education as a basic meal, we tend to think of it as a breakfast to the business day. We should consider it as a balanced diet throughout the day instead", he added.

He criticised the way education was remorselessly followed through from school to college without breaks for students to appreciate the practical applications of their learning. He proposed that people should be prevented from going straight from school to university and that there should be a minimum entry age of 21 years for students joining graduate courses.

Professor Weir said such breaks would allow students to reappraise their courses and perhaps change the direction of their studies. Many who left university during the war, had changed courses when they returned to complete their studies.

The Open University was an excellent example which allowed such an integration of practical and theoretical learning and Professor Weir looked forward to the day when most undergraduate training was carried out through the OU.

The institutional snobbery which allowed people to fossilise in positions in either education or business had a deep effect on national culture and individual pride, he added. "If one plotted what was one learned or could contribute to a job, after five years there was be a pretty rapid decay. It is my sense to have school teachers who never worked in industry, and business managers should also be afforded the chance of teaching".

There should be strong pressure to prevent a job being held for more than five years, he said, and criticized both sides for failing to attempt an understanding of each others problems. In particular he accused other speakers at the conference of talking "past each other".

Mr Alan Devereux, managing director of Scoteros Ltd, accused the school of producing more pupils who cannot add up, and others cannot write and spell. He described them as "poor specimens" who had, by chance, on the doorstep of industry in this country".

Predictably, they was rejected by the educationists, particularly by Mr John Pollock, general secretary of the Educational Institute of Scotland, who said the increased opportunities and achievements in education had resulted in many going on to higher education and universities who, in the past, would have taken up employment in banks, offices, or in apprenticeships.

"If employers in the business world are having to take employees of lower ability than in the past, this in itself does not justify the kind of criticisms which have been levelled."

MSC maps path for youth awards

A scheme to reward young people on the Youth Opportunities Programme with "Pathfinder" certificates is currently being discussed between the Manpower Services Commission and the City and Guilds Institute.

The certificate, which will give a profile of "employability and trainability" is seen as an added incentive for young people to enter the programme and for employers to offer jobs.

Young people will be assessed by their supervisors and, it is hoped, by the further education service as they go through the programme. They will have to demonstrate that they have acquired basic skills and have reached an acceptable education standard.

Guildhall's new head announced

The new principal of the Guildhall School of Music and Drama is Mr John Hosier, senior music producer for BBC Educational Television.

Mr Hosier, aged 49, takes over from the present principal, Mr Allen Percival, who is leaving after 16 years to become chairman of the publishing house Stainer and Bell.

After joining the BBC in 1952 Mr Hosier was responsible for starting the corporation's educational music output, the first of its kind in the world. He gained an international reputation for his work and pioneered approaches in presenting music for primary and secondary schools and for students in further education.

In 1973 Mr Hosier was appointed staff inspector for music with the Inner London Education Authority, and became responsible for music policy in all the authority's educational establishments. At the end of 1976 he returned to the BBC as senior music producer.

The Guildhall School moved last year from its premises near Fleet Street to a purpose-built building in the Barbican. Mr Hosier will take up his post on June 1.

New adult research register

A new register of research programmes in adult education has been produced by Mr C. Derek Legge, former director of the depart of adult education at Manchester University. *The Register of Research in Progress in Adult Education 1976 and 1977* includes a special section on literacy. The register is published by the Department of Adult and Higher Education at Manchester University.

The register is available from the publications secretary, department of adult and higher education, Manchester University, Manchester M13 9PL. Price £3.50 plus 18p postage.

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The debate on higher education in Britain into the 1990s gets under way

APT paper criticizes 'elastic polys' notion

by Peter David

Demographic changes in the next decade could create a crisis in the polytechnics which would make the contraction of the teacher training system look like "a little local difficulty", Dr A. J. Pointon, national secretary of the 4,000-member Association of Polytechnic Teachers, said last week.

"My basic fear is that because polytechnics were designed to be socially responsive pressures can be put on them which cannot be put on the universities", he said. As a result, polytechnics could be used for all the short-term growth in student numbers, only to find themselves in the same predicament as the colleges of education when numbers fall again in the 1990s.

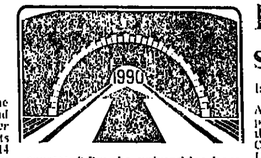
This could be avoided only by coordinating national planning in both sectors, Dr Pointon said. One mechanism could be the national body expected as a result of the Oakes committee's report.

Dr Pointon was commenting on an initial APT response to the Department of Education and Science discussion paper, *Higher Education into the 1990s*. In its response, the association asks 14 questions of its own to complement the 14 questions posed in the DES document.

The APT document says that universities have a straight-forward view of the future. They were in favour of increasing student numbers and against any lowering of standards or shortening of courses.

"The universities do not seem yet to have considered what happens on the other side of the hill when student numbers may decline; perhaps they tacitly assume that all subsequent contraction will take place in the polytechnics", the paper comments.

Polytechnics would require a substantial increase in income to accommodate large numbers of extra students. One way of coping with expansion would be to reduce undergraduate numbers by providing two-year instead of three-year courses. "But the universities have stated bluntly that they will not accept such courses as the DipHE and so any such provision will be in polytechnics or institutes of higher education."



The paper asks whether new DipHE courses should be developed which did not link with degree or professional courses, and what form such diplomas would take.

Other questions relate to the problems of retaining the Robbins principle during a period of contraction, and the readiness of polytechnic lecturers to accept changes in their conditions of employment—such as four-year terms—to deal with the demographic changes ahead.

The APT's 14 questions have been circulated for debate among polytechnic staffs, and will form the basis of the association's formal response later in the year.

Professor Carter challenges student number projections

by Judith Judd

A challenge to the Government's projection of student numbers in the 1980s came this week from Sir Charles Carter, vice-chancellor of Lancaster University.

In a newsletter to staff Sir Charles offers his first thoughts on the Government's discussion document *Higher Education in the 1990s*. He says that projections take no account of the higher birthrate among those most likely to send children to higher education and that they assume a reduction in overseas students.

He opposes the idea that higher education should not expand to meet growing student numbers over the next 10 years. "The alternative is to disadvantage people because of an accident of birthdate."

There was little scope for encouraging students to take shorter full-time or part-time courses. "Shorter full-time courses would attract students of lower entrance qualifications than those at present required. The demand for the Open University and for other part-time courses does not come to any considerable extent from those who have an option to take a full-time degree."

The suggestion that entry to higher education might be deferred as a means of easing the problems of the 1980s is also rejected. On the question of making better use of existing buildings and resources Sir Charles says that some polytechnics and colleges are overstaffed but staffing levels at Lancaster could not be significantly reduced without affecting the quality of education.

In reply to the twelfth of the discussion document's 14 questions he says that the advantages of giving workers higher education opportunities are obvious. The disadvantages are that someone has to pay to keep students and their families and the damage which may be done to a worker's career by his absence.

Sir Charles warns that the failure of universities to give a considered response to Mrs Williams's 13 points did them no good at all. "Perhaps we should try to do better with the Oakes 14".

University entrants in engineering 'are not inferior'

by Sue Reid

Allegations that university entrants to engineering courses are of an inferior quality have been rejected by the Institution of Structural Engineers in evidence to the Finniston committee of inquiry.

The institution, whose evidence was released this week, maintains that the A level scores of students admitted to engineering courses in 1975 were only marginally lower than for those entering arts and science programmes.

The evidence says: "Much has been said about the supposed inferior average quality of university entrants to engineering courses. The institution believes this to be a false picture.

"Many engineering students could do reasonably well at arts subjects but arts students would generally not do so well in science. Much more special mental qualities are needed to obtain an A level in mathematics than most other subjects. The small difference in overall A-level performance should not be assumed to reflect a difference in innate ability.

"When comparing engineering graduates with arts graduates it is also to be remembered that the standards set in engineering courses result in more than 20 per cent of engineering students failing to complete a degree course. The failure rate among art students is of the order of six per cent."

While the quality of graduate entrants to the structural engineering profession was good, continued efforts were needed to ensure that more of the most able were attracted to it. But at technician engineering level greater numbers were required.

"The current changes of further education studies to the awards of the Technician Council and of the Scottish Technical Education Council with the flexibility of opportunities which the courses of the new councils promise may attract larger numbers", the institution predicts.

Commenting on industry's requirements the institution claimed that a sufficient number of civil engineering graduates had been produced in recent years. The proportion of them specialising in structural engineering matched the construction industry's demands.

Small comfort for graduates in bleak employment picture

A bleak picture of employment prospects in the next five years was painted by Professor James Ball, principal of the London Graduate School of Business Studies, at a conference for graduate unemployment this week.

Professor Ball told the conference, organized by members of the Association of Graduate Careers Advisory Services and the Standing Conference of Employers of Graduates, at Churchill College, Cambridge, that it was no good forcing people back into manufacturing industry.

It was dangerous to talk as though the expansion of the public service sector had sucked people away from industry who ought to be there. De-industrialization was a phenomenon common throughout the Western world and had already gone much further in the United States than in Britain.

"British manufacturing industry will still be employing fewer people in 1985 than it is today."

The time was not ripe for small businesses to offer more jobs. Nor would it be possible for Governments to adopt the kind of policies which in the past had been thought would produce full employment.

Speaking on a similar theme, Mr Phillip Sadler, principal of Ashridge Management College, said the biggest single factor in the growth of the British workforce in the last 15 and the next 10 years was the tendency of women to prefer the office or the factory to the kitchen sink.

The rate of output of university students exceeded the growth of the working population as a whole and the potential growth in the number of jobs.

Mr Sadler pinpointed areas of work where growth could be expected in the next few years. They included business, financial and leisure services.

Declining industries included construction, civil engineering, transport, retail and wholesale distribution, mechanical and electrical engineering and motor services. Education and health services should remain fairly static.

Mr Geoffrey Prior-Wandesforde, chairman of the AGCAS Employment and Training Opportunities Sub-Committee, posed three questions. He asked how employers could help the career services in identifying areas which could be potential places for recruiters of graduates; should we also be thinking about reducing the supply of graduates? should the universities be encouraging graduates to go into employment at all or advising them to set up on their own?

Mr Peter Linklater, personnel director of Shell UK Ltd, said graduate unemployment was not something about which we need be especially worried. He believed unemployment in Britain was cyclical rather than structural. During the next few years there would be a decline in the number of young people looking for jobs because of the falling birthrate.

Social work recruitment fears

Universities and polytechnics may be faced with a serious shortage of students for social work training in the autumn, the Central Council for Education and Training in Social Work warned last week.

The statement came after a meeting of the council at which it was decided to reopen negotiations with central and local government aimed at fixing a new target figure for social work training and increasing financial support for students and courses.

A recent CCETSW survey revealed that although more than 4,000 students enrolled on social work certificate courses last year—a slight increase over the previous year—more than 500 who had been offered places withdrew for lack of financial support.

A council spokesman said that if the trend continued this year, there could be a major shortage of suitable students. Course recruitment was suffering because of reductions in the number of social workers seconded for training, cuts in local authority discretionary awards, and reduced Home Office sponsorship for intending probation officers.

The situation was even more critical for colleges offering certificate of social services and post-qualification courses than for those offering the main Certificate of Qualification in Social Work, the council statement claimed.

"A number of post-qualifying study programmes approved by CCETSW have failed to start, or been postponed because of lack of financial support for potential students. The situation has caused frustration and disappointment to institutions and agencies who have invested much time and effort in the preparation of their submissions".

Local government spokesmen, however, said they had no evidence that there would be serious recruitment difficulties next year. Mr Chris Berry, assistant secretary at the Association of Metropolitan Authorities, commented: "At a time when local authorities have been under particular pressure they have nevertheless maintained their existing investment in social work training."

He said when a shortfall of 1,000 social work students was predicted last year, central and local government had agreed to set up an emergency fund to top up the training programme. In the event, social work courses increased their student numbers and the level of local authority secondments was maintained.

London guide to polys and colleges

The latest edition of the Inner London Education Authority's guide to further and higher education courses has been published. More than 12,000 copies of "A Guide to Further and Higher Education in Inner London", have been printed. Details of courses available at polytechnics and colleges, together with information on 400 careers, are given in the booklet, which is available from newsagents or the ILEA, County Hall, London SE1 7PB, price 20p.

Conference on role of polys

by Maggie Richards

The role of the polytechnics in continuing education is to be examined at a major conference next month.

Speakers at the conference, to be held at Trent Polytechnic, will be Mr Gerry Fowler, former minister for higher education; Mr Keith Hampson, junior Conservative spokesman on education; and Dr Colin Adamson, director of the Polytechnic of Central London.

Invitations are being sent to all polytechnic directors, and to representatives of those institutions which already have continuing education units. Other organizations being invited to attend include the National Institute of Adult Education, the new advisory council on continuing education, the Open University and the Workers' Educational Association.

The conference, which will be held on April 14, is being arranged by Mr Neville Coulding of the Centre for General and Extra-Mural Education at Trent Polytechnic.

Details of the conference can be obtained from Mr Coulding at The Centre for General and Extra-Mural Education, Trent Polytechnic, York House, Mansfield Road, Nottingham.

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29 August—1 September 1978

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RESEARCH

Student teachers reject 'positive discrimination'

by Peter David

Positive discrimination to help minority groups seeking access to higher education is not favoured by a majority of student teachers, according to a survey carried out in a polytechnic.

A questionnaire was administered to 126 students—including 56 graduates and 70 BEd students—in the education department of a polytechnic (which is not named to preserve the anonymity of the respondents).

Two main questions in the survey asked: "Do you think that a policy of differential selection for members of racial minority groups residing in Britain is desirable?" and "On what grounds do you base your views?"

Out of 126 students 97 said they opposed differential selection and 19 were in favour. The remainder did not know. Opposition was stronger among the graduates than the BEd students, but female BEd students showed particular hostility.

Most students gave concern for academic standards as their reason for rejecting differential selection. BEd students gave this point particular emphasis, possibly because of their own marginality in the higher education system, the author of the survey suggests.

Many respondents expressed concern about the standard of English among minority groups. Besides contributing to a decline in standards, some respondents noted, lack of English was a serious handicap for a teacher.

The second main theme emerging from the survey was anxiety about the justice or fairness of differential selection. One graduate asked: "Should lower grades be accepted for shorter people or those with curly hair?" Another said: "This is discrimination against majority groups."

A third theme in the students' replies suggested that differential selection could increase racial conflict by creating resentment among members of the majority group. One reply said: "In the current political climate favours given to racial minorities at the expense of the racial majority may fuel the fires of reaction."

A final group of respondents argued that the idea of differential selection was inimical to the concept of equality of opportunity. A typical reply was: "I see no reason why minority groups should be treated differently—whether this be more favourably or less favourably than the rest of the population. This would be in line with my views favouring equality of opportunity for all members of society."

Four out of six students who were themselves members of minority groups opposed differential selection and gave similar reasons.

Job creation favours the elite

Job creation schemes are providing graduates and other qualified young people with a passport to work but are failing to assist the disadvantaged. This is indicated in preliminary findings of a pilot project carried out by a research team at Stirling University.

The pilot project which was limited to the central region of Scotland is part of a survey of the whole of Scotland funded by Ruwantree Ltd.

It showed that graduates and holders of qualifications generally do consistently better at obtaining jobs after receiving work experience, while the unqualified and less able on the scheme do not.

In addition the qualified tend to get jobs in the range of their expectations, while the disadvantaged fail to do so in spite of having low expectations.

Already research findings from the first stage of the national survey which involved over 1,000 interviews are supporting this conclusion.

The second part of the project will not be completed until the summer when the research team will have re-interviewed everyone and will have obtained a full educational and job profile from them on which a final report can be based.



Aceros Narcondami—the Narcondam Hornbill, British Museum Specimen.

Imperial up £602,300 but more sought for contract work

by Robin McKie
Science Correspondent

Direct spending on sponsored research at the Imperial College of Science and Technology reached £4,392,000 last year—an increase of £602,300 on the previous year. These figures are revealed in the college's research report for 1974-78 and the rector, Sir Brian Flowers, said they were still seeking substantial increases from non-University Grants Committee sources with special emphasis on attracting contract research.

He said that last year's figure represented an increase of £1,766,445 spent on sponsored research from the 1971-74 period, the last year covered by their previous triennial report.

Sir Brian said that in the past year, Professor M. G. Flemming has assumed responsibility for forming an effective focus of information concerning research opportunities in general. "I have also set up a working group comprising a number of senior academic staff and some governors to consider means of increasing our disposable income from outside sources and to advise generally on academic industrial collaboration", he added.

Recent industrial sponsorship at the Imperial College has provided two new chairs—the Kodak chair of interface science in the department of chemical engineering and chemical technology, and the Central Electricity Generating Board chair of corrosion science in the department of metallurgy and materials science.

"Another major new development is the recent creation of the Imperial College centre for environmental technology, formed to further the development of academic and research activities in this field. Fifteen of our departments are at present involved in this exciting new collaboration", Sir Brian said.

One development highlighted in the report is the new systems which has linked the department of aeronautics with the college's central computer. The department says this has allowed them to perform experiments which have been previously impossible.

Poly students hope to get the bird

by Maggie Richards

Four students from North East London Polytechnic are planning an expedition to an uninhabited island in the Bay of Bengal in an attempt to help save a rare species of bird from extinction.

The students hope to launch the expedition to Narcondam, one of the 204 islands which make up the Andoman archipelago, in August.

Their aim will be to conduct research into the Narcondam Hornbill. It is believed less than 200 of the birds now exist, because of the destruction of the island's forests for the timber industry.

To ensure the hornbill's survival it has become vital to know more about the bird.

During their stay on the island members of the North East London Polytechnic team will be estimating the number of birds, studying their diet and feeding behaviour and making observations of nest sites and territories. An assessment of their ecological importance will also be made. The team intends to publish its findings in a report.

Sponsors are now being sought to finance the trip, which will cost £4,000. The students are also waiting to hear that they have been granted permission to visit Narcondam.

Anthropology in our time

Middlesex Polytechnic has set up a new research unit designed to link anthropological methods with the polytechnic's strong research interests in criminology and democracy.

The Centre for Occupational Studies, headed by Dr Gerald Mars, has already attracted two Social Science Research Council grants and has five doctorate applications in the pipeline.

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North American news

Supreme Court rules on expulsion rights

from Clive Cookson
WASHINGTON

Universities can expel students on academic grounds without giving them any kind of hearing, the Supreme Court has ruled.

In a major decision for educational institutions the nine Supreme Court justices voted unanimously to reverse an Appeals Court decision that the University of Missouri violated the constitutional rights of a medical student, Charlotte Horowitz, by dismissing her without a written notice of charges and a hearing (*THES*, November 18, 1977).

The ruling means that students and pupils expelled for a poor academic record have fewer legal rights than those who have committed disciplinary offences. The Supreme Court ruled in 1975 that the latter are constitutionally entitled to notice of the charges against them; an explanation of the evidence; and a chance to reply.

Academics and university administrators are extremely relieved that their authority and professional judgment has been backed by America's highest court. If the nine justices (all men) had upheld the lower court's decision, universities would have faced the nightmare prospect of providing legal hearings for any student they wanted to expel.

A majority opinion of the court, written by Justice William Rehnquist and signed by four of his colleagues, reflected a strong desire to leave academic decisions free of legal entanglements: "A school is not an academic institution, not a courtroom or an administrative hearing room. . . . We decline to further enlarge the judicial presence in the academic community and, thereby, risk deterioration of many beneficial aspects of the faculty-student relationship.

Courts are particularly ill equipped to evaluate academic performance."

Ironically, the subject of the case was, in a certain sense, academically brilliant. Miss Horowitz was accepted by the University of Missouri's medical school in Kansas City with a Master's degree in psychology from Columbia University, and came near the top in the school's admission test.

The university agreed that her written work remained excellent. But, the school maintained, her performance on the clinical course was unsatisfactory, because she had no interest in cultivating a good bedside manner.

She claimed the school was prejudiced because she was female, Jewish, overweight and of a physical appearance some find unattractive.

However, the Supreme Court ruled that her deficiencies were, in the context of a medical school, academic. "Personal hygiene and timeliness may be as important factors in a school's determination of whether a student will make a good doctor as the student's ability to take a case history or diagnose an illness", it said.

Women's and civil liberties groups backed Miss Horowitz. They said that, in the court's verdict, judicial interference in academic judgments should not have been an issue, as she clearly faced charges of personal misconduct rather than academic deficiencies.

Miss Horowitz's lawyer said the majority opinion seemed to give medical schools unbridled discretion in dealing with students—by attaching an "academic" label to any reason for expelling someone, a school could insulate itself from a judicial review of the propriety of the decision.

Fees crisis: tax credits and grants begin Congress battle

The two rival ways of helping middle income families in America meet rising college fees have started their race through Congress in spectacular fashion.

The Senate Finance Committee passed by 14 votes to one a combination of the leading "tuition tax credit" proposals, which will allow families to deduct up to $500 from their income tax payments a student in elementary, secondary or higher education.

Then the Senate Human Resources Committee approved an amended version of the administration's student assistance package—the $1.5 billion expansion of existing federal grants and loans announced by President Carter last month to head off the politically popular credits, which he strongly opposes.

The two proposals will have to wait for the Senate to finish debating the Panama Canal treaties before they reach the floor of the chamber. Meanwhile, the two equivalent committees of the House of Representatives (Ways and Means and Education and Labour) will have considered, and no doubt passed, tuition tax credits and direct student aid increases.

For Congressional committees take care to protect and, if possible, extend their boundaries. If the tax credit is eventually enacted, a slice of educational policy making will effectively have passed to the Senate Finance and House Ways and Means committees from the Senate Human Resources and House Education and Labour committees.

The tax credit measure approved by the Senate Finance Committee was an amalgamation of the two leading tax credit Bills—one restricted to higher education and the other including fee-paying schools.

It would give a two-stage tax break: for the next two academic years undergraduates and vocational school students will get a $250 credit—from 1980/81 the benefit is raised to $500 and extended to pupils in parochial (mainly Roman Catholic) and independent schools, and to postgraduate and part-time students. The cost to the Treasury in lost taxes is expected to reach $4,500m a year if it becomes fully operational.

The administration has said the principle of tuition tax credits is inequitable—with much of the benefit going to the wealthy—and that the inclusion of parochial schools may be unconstitutional. The Finance Committee has invited an early court ruling on the constitutionality of the measure in terms of the First Amendment, which has been interpreted to stop the government from directing aid to church-related institutions.

The Human Rights Committee Bill is more generous than President Carter's original proposal to families in the $15,000 to $25,000 income bracket. They would have received a flat $250 basic grant under the Carter plan. The Senate Bill would give grants on a scale sliding from $1,020 at the $15,000 income level to $250 at the $25,000 income cut-off.

The President has repeated his threat to veto one of the two rival measures if Congress passes both. "A choice must be made", he said. "We cannot afford—and I will not accept—both a tuition tax credit and the increased student aid I have proposed. I strongly urge the Congress to act responsibly on the administration's proposals."

Growing call for rethink on training

The President of Columbia University's much respected Teachers' College has added his voice to those demanding a radical overhaul of the way teachers, in their various forms, are trained in the United States.

Professor Lawrence Cremin said those entering the "educating professions" should have a doctorate and should have achieved basic skills in at least one academic or artistic field. They should also have a thorough grounding in teaching and learning, theory and an internship in various educational settings.

America's educational system was undergoing a revolution, he said, that had extended those who could be classed as educators far beyond school and college teachers. They included: day-care workers; scriptwriters in children's television programmes; "learning consultants" in libraries and museums; training officers in business and industry; and gerontologists in old people's centres.

Every faculty of education should be associated with a network of institutions—schools, colleges, day-care centres, libraries, museums, work places and community agencies. And these would be the setting for the "rotating internships", Professor Cremin told the American Association of Colleges for Teacher Education.

He recommended dropping the thesis as a doctoral requirement. "I would prefer to see one or two solid research papers, a terse scholarly evaluation of an educational undertaking, and a first class demonstration of teaching skill, rather than a long, if competent, thesis that will sit unread in the library for ever."

Black colleges launch drive to boost standards

from Our Own Correspondent
WASHINGTON

America's independent black colleges have committed themselves to make a common effort to raise their academic standards.

The presidents of the 41 member institutions of the United Negro College Fund (UNCF) have agreed on an action programme which, they hope, will bolster their academic standing without abandoning their traditional role of providing special help and encouragement for black students whose schools did not prepare them adequately for university education.

The new standards include: a pre-graduation proficiency examination for students with less than a B average in English; compulsory pre-entry courses in mathematics and communications skills for those deficient in these subjects on leaving school, and continued remedial classes at college for students who do not make sufficient progress before entry; at least a C average requirement to pass freshman English; and use of the best students to tutor those who are least well prepared.

Raising undergraduate standards in the black colleges will be particularly difficult because so many of their entrants are, in Mr Cook's words, "still suffering from the legacy of segregated slum and ghetto school systems".

Many American black colleges started life as high schools for freed slaves and their families after the Civil War, when academic standards had to take second place to helping young negroes make the best of their new freedom and opportunity.

Academic excellence is now assuming more and more importance for the black graduates who are trying to get into law, medical and other professional and graduate schools.

Most black colleges already run remedial courses for their weaker entrants, and some insist that their students continue to take them right through their four undergraduate years. The difficult question is whether or not to let those who fail to make up the lost ground remain at university.

Concern over research cash

The Presidents of the American and Canadian Physiological Societies have sent a statement to President Carter and Prime Minister Trudeau expressing dismay at the dwindling federal support for fundamental biomedical research in the two countries.

They point out that in the past 50 years the main breakthroughs in therapeutics and preventative medicine have most often come from basic investigation of biological processes, and that many incurable diseases will not be treatable until scientists understand the functions of the body organs and systems involved.

Ford award on human rights

The Ford Foundation has awarded Harvard University law school a $375,000 grant to study human rights in east Asia. The three-year project will result in foreign policy recommendations to the United States government.

The researchers will concentrate on countries in continental east Asia, notably China, Vietnam and Korea, but Japan will be used as a comparative reference.

Professor Jerome Cohen, the project director, said that Japan shared the Confucian influence of her mainland neighbours but had been able to preserve civil liberties and maintain political and artistic freedom since the Second World War.

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Holland

7pc growth in college numbers

from John Richardson

ROTTERDAM

The number of full-time students in Dutch universities has reached 133,200 in the present academic year 1977-78. This is an increase of 8,600—some 7 per cent on 1976-77.

The growth trend is reinforced by the fact that there are now 21,800 first-year students, an increase of 1,700—almost 9 per cent—on last year's figures.

Among the bigger faculties the steepest rises, averaging 13 per cent, are to be found in the arts (languages, history, the history of art, archaeology, music and drama). However, with the first-year courses the largest increases of about 20 per cent are recorded for theology, law and social science.

Women took a greater share of places. The percentage of female students overall went up from 26.2 to 27.4 per cent and from 31.2 to 32.1 per cent for first years. Social sciences and the arts were the most popular subjects, and technological subjects the least favoured.

Australia

Double boost on student cash

from John Kirkaldy

SYDNEY

Support from slightly-unexpected sources has boosted sagging hopes for the finances of student unions in Australia.

A court victory in New South Wales and strong backing from the Federation of Australian Staff Associations (FAUSA) has made student activists a little more optimistic in what has been seen by many as a "make or break" year.

The present plight of the Australian Union of Students (AUS) and individual student unions comes at two levels—legislative and judicial. The state government of Western Australia has passed a law outlawing compulsory membership of student unions and a similar move is still possible in Queensland.

Moderate student opinion, led by Democratic and Young Liberal clubs, has challenged the right of student unions to compulsorily raise funds for anything other than student amenities—such as sports, entertainment, and so on.

Members of these groups allege that in the past money from AUS and individual student unions has been given to support radical causes, such as Third World freedom groups and bodies totally opposed to the present federal government of Mr Malcolm Fraser, the Prime Minister.

A case in the Victorian Supreme Court last November supported these groups by stating that a very narrow definition of student welfare should be adopted. Eleven institutions have already seceded from AUS which caused that body at its recent council meeting to reduce its budget from A$714,000 to A$425,000 and cut many full-time positions in the union.

Student difficulties were compounded with the voluntary liquidation of AUS Travel last August but this has been subsequently rescued by a consortium of international airlines (*THES*, February 10).

The new court ruling came in the NSW equity court on February 23 and was as a result of a case brought by a commerce student, Mr Mike Farrell. He was challenging the right of the students' union of the University of NSW, the country's largest university, to collect a compulsory fee levied by the university. Both the university and students' union were joint dependants in the case.

Mr Justice Rath ruled that both bodies were entitled to collect and receive such fees. The president of the NSW students' union, Ms Dixie Coulton, claimed that the decision was a victory for students. But, she said: "We still have to win the principle of maintaining the autonomy of students' unions, not just on this campus but throughout Australia."

Ms Coulton claimed some of the issues demanding attention this year would be anti-uranium mining, unemployment and cuts in governmental education funds. All are likely to be highly controversial.

Support for student unions also came from FAUSA at a council meeting in Melbourne last month. Mr Les Wallis, general secretary of FAUSA, which represents staff in Australia's 19 universities, said: "It is our belief that universities should clearly be empowered both to require payment of fees for students unions and be legally entitled to collect them."

This support will constitute a strong pressure group on university vice-chancellors, as the FAUSA council agreed to lobby student unions and universities throughout Australia.

South Africa

Black staff bridge gap in salaries

from Louis Hotz

JOHANNESBURG

The traditional gap between the salaries paid to white and black university staff in South Africa is to disappear. From April 1 African academics employed at their own segregated universities, who have hitherto been paid appreciably less than their white colleagues doing similar work there, will receive the same remuneration. The arrangement will also apply to library staff and to senior laboratory assistants.

The pay disparity has long been one of the main grievances against the Bantu education system. Among other things, it is claimed it has resulted in many academically qualified men being lost to African higher education.

Meanwhile, the University of Stellenbosch, the country's oldest Afrikaans-medium university, is to open its doors to undergraduates of "other colours".

The Coloured students will be able to take part in all university activities on the campus, but they will not live in the hostels or be able to attend university dances.

Italy

Campus assistants launch revolt over 'serf' pay

from Uli Schmetzer

ROME

Italy's 30,000 university lecturers and professional assistants last week launched a revolt against their role as "the serfs" of the higher education system.

During a stormy National Assembly the so-called *precari* (insecure) decided on lightning strikes for the next two months to back demands for reform of their status and better working conditions.

Their claims could severely hit the budget of Italy's tertiary education system which has survived for decades on the "slave labour" of the lecturers and professorial assistants who do the bulk of work and many of whom get paid about £100 a month.

By comparison a professor earns £5,000 a year and a university dean £15,000.

"The university belongs to the *precari*", an assistant faculty dean said. "If they go on strike the university is dead".

Their plight is one of the worst features of the education system. They are employed for one year on stipends and grants with wages ranging from £100 to £150 a month and can be simply dismissed at the end of their contracts without appeal or severance pay.

Obliged to work a minimal eight-hour day, they do not enjoy basic labour benefits like a thirteenth month's salary, pensions or free medical assistance. Their future depends entirely on the availability of funds and the whim of senior professors for whom they stand in as teachers and research assistants while the professors are often engaged in more lucrative activities outside the campus.

During last week's Assembly, speakers condemned the nepotism and corruption in the university teaching and promotion system. They told of cases such as in Padua where the hospital pharmaceutist and the city's leading architect were paid *precari* salaries, while several local postgraduate professorial assistants barely earned £6 a month.

Throughout Italy much of the available teaching funds are squandered on "honorary" lecturers who do not covet the money but the status which accompanies it.

The "cult" of the *precari* is an old and sad Italian academic institution. Most attach themselves, as "serfs" to the university in the hope of eventually obtaining a senior position. They are often destitute, live with parents, take evening jobs or have wives who work.

Most professors have passed through this "insecure" stage and therefore sympathize with the aspirations of the *precari*. Last week even students were on their side. In several cities student associations warned they would withhold tuition fees unless the *precari* received better pay.

The *precari* last week demanded that no member of an academic staff should be allowed to have a job outside the campus. If carried out this would dramatically curtail the lucrative activities of deans and senior professors whose income is supplemented by industrial consultancies and writing books.

They also demanded a closed shop—that is, an end to the one or two-a-year tutorials by non-academics, on full salaries.

The demands also include a 35-hour working week; the abolition of an inferior status (the *precari* are classed as "non-teaching staff"); the right to pensions, medical benefits, thirteenth month's salary; and contracts lasting at least three years.

The Assembly, held in Padua, said the changes should be part of the long overdue university reform Bill—but, in any case, must be implemented before October 31 when most *precari* contracts and stipends expire.

France

Three more become universities

from Guy Neave

PARIS

From next year, the university colleges of Toulon, Perpignan and Valenciennes will become full universities in their own right.

The application for the upgrading of the three colleges was submitted to the *Centre National de l'Enseignement Superieur et de la Recherche* (CNESER), France's degree-validating authority, last month.

The change boosts the number of universities in France to 77.

There still remain four university colleges. Two are in the overseas *Départments* of Antilles-Guyane and the Isle of Réunion, and two at Avignon and Chambery.

The upgrading measure is the final act of a policy that has been highly controversial. Some have seen the redistribution of power between the provincial faculties as at the expense of higher education in the capital. Others have regarded it as a particularly subtle variant on central control, mixing formal administrative autonomy for the universities with extremely rigorous financial control from the centre.

● Meanwhile, student numbers are still growing, though more slowly than before. Last December there were 837,776 students enrolled in the university sector—some 2 per cent up on last year.

Particularly interesting is the fact that the numbers of arts and humanities enrolments seem to be tapering off. Between the academic year 1976-77 and 1977-78, numbers in this field grew by 0.5 per cent from 251,447 to 251,677. Law, well known as a soft option in French universities, shared the same fate.

West Germany

Further shake-up in policy

by Günther Kloss

After the recent Bonn Government reshuffle (*THES*, February 17) a further significant Ministerial change affecting the educational sector will occur shortly, this time at regional level. The longest serving Education Minister in the Federal Republic, the 68-year-old Wilhelm Hahn of the *Land* Baden-Württemberg, is to retire in May, much against his own will.

The move, not entirely unexpected but speeded up by the need for a bigger Cabinet reshuffle, is important for two reasons. First, the outgoing Minister was probably the most traditionalist and intransigent of the *Länder* Education Ministers; he was particularly unpopular in the universities. Although the Baden-Württemberg Prime Minister, who usually backed his colleague in the education department, continues in office, there is now a chance that the coordination of the education policies of the *Länder*, which are autonomous in this field, might be made a little easier and that it eventually might become more effective.

Second, following the example of the city states and the *Länder* North Rhine-Westphalia and Lower Saxony, the former unitary Baden-Württemberg Education Ministry is to be split into two. Part will deal with higher education and research, and will be headed by a 51-year-old former law professor, who for four years was Rector of the University of Freiburg. The other part, a ministry for schools and the arts, will be headed by another former university law professor. A third professor will become state secretary.

This division of responsibilities is not motivated by party politics. It is often undertaken because it facilitates the formation of coalition governments or permits sectional interests within a party to be taken into account.

Denmark

Overtime ban under discussion to help ease unemployment

from Colin Narbrough

COPENHAGEN

A national overtime ban for all teaching staff from the higher grades (gymnasium) level in schools to university is currently under negotiation between the Danish Federation of Academic Unions (*akademikernes centralorganisation*), and the government, their main employer.

The proposed ban aims to alleviate high unemployment among teaching staff in higher education, although it is unlikely to affect all of the AC's 70,000 membership, according to the federation's chairman, Jakob Lumholt.

Any overtime ban will have to be riddled with dispensations to guarantee the quality of education and to permit certain professions, such as doctors, to carry on freely with their non-teaching duties.

Figures released recently by the Finance Ministry suggest that the ban, due to start in August for a two-year period, could create 1,000 new jobs. Mr Lumholt feels that 300 to 400 would be more realistic.

For the past four years Danish comprehensive teachers have operated a voluntary overtime ban but it has not had a great effect on boosting jobs.

The AC ban is directed more at stemming rising unemployment in higher education rather than trying to create more jobs. Even so the overall outlook will continue to be rising unemployment for Federation members into the 1980s.

The latest figures show that 3,100 AC members are out of work, plus an estimated 1,200 "masked" unemployed, of the organization's 20 member unions.

The humanities and social science graduates' union is the worst hit, with almost 900 unemployed. Lawyers, engineers and architects follow around the 500 mark. Denmark's total population is five million, and average unemployment for AC members is 13 per cent, but in some specialities, like theology and dentistry, the rate is 35 per cent and above.

The prime target of the agreement will be teaching posts and the overtime ban is intended to produce more permanent jobs for existing part-time staff.

Israel

Expansion of fellowships

from our correspondent

JERUSALEM

The Planning and Grants Committee (PGC) of the Council for Higher Education has invited universities to present candidates for 15 three-year Barecha Foundation fellowships. They must be outstanding young researchers and potential lecturers; in exceptional cases, they may be a potential senior lecturer. Candidates can be graduates, immigrant researchers or Israelis returning from postgraduate research abroad.

The fellowships will be the equivalent of the lecturer or senior lecturers salary, and expenses, connected with research, may be covered.

The award is to enable universities, in times of tight budgets, to employ some of the most promising researchers.

With intense competition expected, universities may present only up to 10 candidates, in order of priority. Two selection committees have been appointed, one for the humanities and social sciences and the other for the natural sciences and technology. They are expected to judge the candidates by international standards.

The fellowship's renewal each year will depend upon a report sent by the university to the PGC. And at the end of the period the university undertakes to take the successful fellow on to its staff.

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Don's diary

Sunday

Finally awake, I was aware of a knot of anxiety somewhere below the diaphragm: in fact, several knots. Having read that the only cure is to face up to the causal problems, I wrapped up and walked the long way down to the village for a newspaper through the freezing drizzle.

Problems. First and always there is living with our "anomaly". Bills exceed salary. Result, according to Micawber's theorem, misery. Three exam papers to finish this week. Two conference papers to be in Rouen by Wednesday. Four abstracts for the Geneva microcomputer conference by the end of the week. Jerry's call yesterday.

I almost forgot the biggest knot of all. I live in a sea of paper. Not by choice, but through sheer incapacity to cope with the inflow, despite the university's provision of 0.05 of a secretary. I have nightmares about paper, and last week one came true—I lost a manuscript of an invited review paper which had taken 18 months to write. Then there is the half finished paper for the DoI which is two months late.

I called in on Jerry. He is a one-man company, and is making part of the equipment for a British Rail contract, purely as a favour. He cannot get four cantilevers made. Without the cantilevers we miss the Friday deadline, then I get no money to pay our research fellow. Without one the research group might as well pack up and go home. I must get them made.

Apart from juggling bills, I spent most of the rest of the day in a rather unsuccessful writing session. Remembered at the last minute, I promised to do *Don's Diary*. Only journalists have ever called me a don. The word conjures up a picture of an old boy shuffling round Oxford in carpet slippers and complaining in an angry letter to *The Times* whenever he gets a pay rise.

I wonder what they expect of an engineer. Do they ever have them? Ought I to split a few infinitives and hang a few participles to lend authenticity?

Monday

Points failure at Hackney Downs—late again. *City News* on sale today. In my opinion one of the best things to happen recently in a British university—a professional newspaper produced with disinterested disregard for the insolence of office and the proud man's contumely. As a result there are one or two odd bodkins waiting to slip the editor a quick quietus.

A devastating main headline "VC leaving to chair UGC". Dr Parker had quietly set about transforming the rigid ex-polytechnic, devoted to teaching and administration, into a truly liberal institution dedicated to learning, scholarship and research. Unfortunately his method (stealth) takes time, and now he is to depart before his influence has penetrated the outer feudal reaches of the university.

Down in the workshop I persuaded Fred (one of our centres of excellence) to make the cantilevers. I phoned the library to see if they could find out who has written *Don's Diary* in the last year.

Tuesday

On the train, which this morning was on time, I prepared my final year lecture on reliability. On arrival tidied up my notes, then having 20 minutes to spare made for the senior common room. I make a point of sitting with members of other departments, since one of our less fortunate inheritances is a rather excessive and rigid departmentalism.

Conversation today stemmed from *City News*. The story seemed to sort out the sheep from the goats. The good guys (in my book) were pretty upset about it. Another school is rather indifferent, speaking of the "invisible" V-C. I have never been all that sold on the old "touch of Harry in the night" routine myself. At least one feudal head of department is said to be cock-a-hoop. The said good guys (ie, those innovative in teaching and research) put a lot of faith and hope in the pro-chancellor, Lord Alport, and his selection committee, to come up with the goods again.

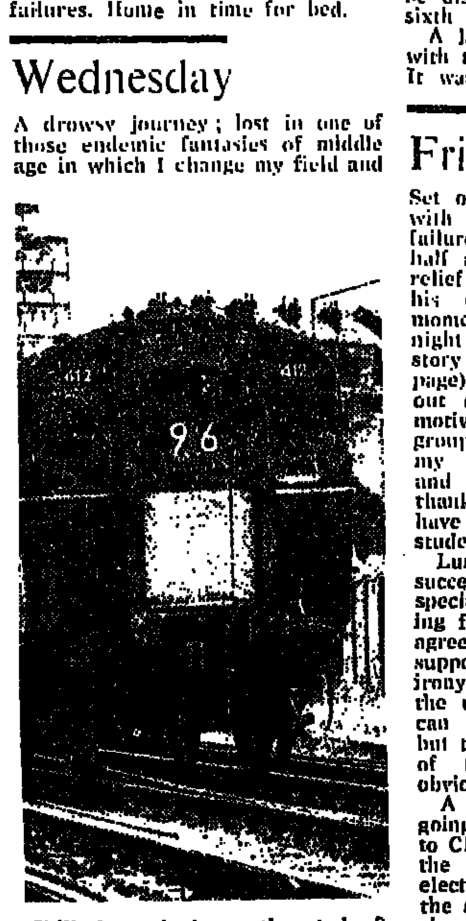
The technician story also produced a marked division, between the technology based departments and others, who try hard but cannot really see what the fuss is about. An afternoon with no classes or meetings, so I crept into my office unobserved to catch up on the writing. However, it seems that the mid-session depression season is starting early, and I spent most of the afternoon on student counselling.

A note from the library: *Don's Diary* has been written by three historians, three linguists, one each from education, philosophy, communication, library, audio visual centre, science, (yes) one engineer and *eleven* social scientists.

A British Rail bonanza tonight—two engine failures and two points failures. Home in time for bed.

Wednesday

A drowsy journey; lost in one of those endemic fantasies of middle age in which I change my field and



Will the train be on time today?

become an overnight success. I can see the headlines now, on the day the oil runs out. . . .

"*Sociology exports reach all time high*". Minister for Sociology, John Brignell (No! the name does not have the right ring about it). Minister for Sociology, Johnny Brig, today announced record exports to a hushed and expectant phone-in. Despite the challenge of inferior Japanese and Russian imitations, production had reached unprecedented levels and would assure prosperity for generations. He also took the opportunity to deny accusations from the Opposition that the Department of Instant Theories was operating jargon sweat-shops and exploiting cheap immigrant labour in its take-over of the many derelict factories and laboratories throughout the country. The Minister for Unemployment, in a supporting speech, said that, despite isolated cases of several families sharing a social worker, Britain could justly claim to lead the world. In a later debate the Transport Minister confidently predicted that a train would leave Liverpool Street in the next few months. . . .

One of the things I did to keep a group together when things got tough for university research was to form a company, which now employs some of my former research students. The need to account and pay for every man-hour has made me rather intolerant of affairs like this afternoon's Board of Studies in which several hundred pounds worth were dissipated in maintaining the illusion of democracy. The student reps complained about restricted access to labs—another product of the technician shortage. We learn that we have just lost two more, one to the buses and another to a milk round.

Thursday

Any university teacher who thinks he has seen the worst of state bullying should try running a small company. The vatman will be invading my home later this month. He enjoys powers rare outside the KGB. I took an early train to have a session in his City office with Brian (our financial director, like me unpaid). Apparently the finances are quite healthy but our next cash flow crisis will occur at the end of April. It's up to me to do something about it.

On the way to the university I called in at the trade counter to buy some components and met a colleague from the systems science department, an outfit that epitomizes the Parkes principle of open government, and as a result their morale is sky high.

My two most difficult lectures are consecutive on a Thursday morning. One went well the other badly. Why is it that a lecture is either blessed or damned in the first five minutes, and nothing you try can change it?

The afternoon was dominated by the telephone, including several industrialists desperate for good graduates from our computer engineering course. Most of them will be disappointed. First catch your sixth former.

A late night trying to catch up with the paper. Ran for the 9.36. It was cancelled. Home at 11.30.

Friday

Set out early for an appointment with the British Rail man. Train failure at Tottenham Hale. Arrived half an hour late to learn to my relief that the research students got his equipment working at the moment I was arriving home last night (including the cantilevers, the story of which could have filled this page). The lads slogged their guts out over this one, for no other motivation than the good of the group. The one thing that has made my professional life worthwhile, and for which I constantly give thanks, is the incredible luck I have had in attracting research students of ability and character.

Lunch with Eddie, another highly successful one-man company, who specializes in microcomputer training for industry. We came to an agreement that our company will support his with personnel. A nice irony. Not only have I proved that the university's bright young men can be financially self-supporting, but they end up providing the sort of technical education industry obviously needs.

A blow fell this afternoon. I am going to lose one of my key men to CERN. My attempts to produce the leaders of British microelectronics seem fated to provide the servants of European Big Physics. I simply cannot compete with the high salaries they offer, especially after Dennis Healey has had his slice. Added to that is the experience unique to a British engineer of a sudden increase in status as soon as he leaves these shores.

I hear the government is to spend £55m on the microelectronics industry—like the old lady trying to save her aspidistra by washing its leaves: nobody told her about roots.

Saturday

I am afraid, dear diary, I have burdened you with something of a jeremiad. Perhaps next time the editor will let you have one of your jolly sociological romps to make up for it. Working in the most rapidly changing technology, and an expensive one, I should have expected to be at the sharp end of the government cuts.

There is really an exquisite irony in the way the first wild swing of the fiscal knife, penetrating the subcutaneous layers of committee and sub-committee, came to rest by neatly severing one of the arteries which promise economic life. What more obvious than cutting down on the recurrent salaries of technicians and all this new-fangled electronic gear? But I cannot help finding the growing pile of unmaintained equipment depressing.

John Brignell

The author is reader in electronic engineering at The City University.

Into the 1990s: a first comment



Ralf Dahrendorf

Whatever one may say in detail about the DES Brown Paper on *Higher Education into the 1990s*, there is no getting away from the fact that it raises important questions, and that it invites "the interests concerned" to offer their own answers. I stress this because it seems to me that if the existing institutions of tertiary education do not give constructive answers themselves, they have little reason to complain about government answers which they dislike. Autonomy implies responsibility; and forming a view about the demographic, social and economic challenges to higher education in the next two decades is a part of this responsibility.

Such a view, however, is not easily formed. While there is little time left before the first decisions about the future are taken—decisions on capital expenditure for instance, or even about per capita grant—some of the underlying assumptions require a lot of thought. This is in fact the main point of this first comment on the Brown Paper.

The paper, like many documents of its kind, is essentially based on the extrapolation of trends. The two trends in question are, first, demographic, that is, the birthrate, and secondly, social, that is, the proportion of each age group going on to tertiary education. This, however, is merely the beginning even of a quantitative analysis, and I would like to point to three critical questions which have to be answered in this connexion.

The first of these questions has to do with the elasticity of demand for university places. The period of pre and post-Robbins expansion has also been one in which it was assumed that a university degree after leaving school is desirable and increasingly necessary as a prerequisite for positions in many fields. Some professions, like accounting, went "all-graduate" during this period, others, like law, moved a long way in the same direction, and for the majority of managerial and senior administrative posts a degree would today be the rule rather than the exception.

Some would argue that this has to do with the increasing complexity of professional work; and in several areas a good case can be made for this argument. But there is the other point that quite apart from the substance of academic training, degrees have become an instrument of screening. While it is admitted by employers, public and private, that people do not actually need the training which they have received in order to do a job, it is convenient to take their firsts or lower seconds as indices of general ability. A meritocratic society uses degrees as a plutocratic society uses money and an aristocratic society social origin.

This is not the place to repeat that education is, or should be, a civil right and that a civilized society should offer its citizens an education according to their talents and desires rather than according to fictitious economic needs. But the question remains: are we offering the right education at the right time? Do we want to continue to use higher degrees as screening instruments and thereby force young people to do what perhaps they would prefer to do later in life? Are we going to let the assumption that all-graduate entry is necessary for professional and other work go unchallenged? I think we should not do that, but that on the contrary the time has come to have a close look at the need for graduates.

There are signs that some are already doing this; in the legal profession there seems to be a movement away from the demand for all-graduate entry. Perhaps the more general case can be made that there is more elasticity with respect to the need for tertiary education than mere extrapolations imply, and that therefore demand for higher education may not need to be as great as the Brown Paper assumes.

This point leads me to a second, much more general issue. One way of looking at the future of higher education is by spelling out alternative responses to assumed (quantitative) challenges. That is what the Brown Paper does. Another way however is to begin by asking what kind of educational system one wants in the 1990s, and then to trace one's way back to the present. For some time, I have used this column to plead for a long look at the future of higher education, possibly by a departmental, or even a Royal Commission.

Perhaps, the time has not quite come yet to set it up; expansion and response to traditional demand are still very much the order of the day. But the moment cannot be far when one would wish to consider higher education in the context of a new approach not only to public expenditure and the employment system, but above all in the context of new views of the social construction of human lives.

In connection with the Brown Paper the relevance of this point is evident. If any one of its extrapolations came true, this would mean that post-experience, and in particular post-degree teaching is not only not expanded, but is crowded out. The social opportunities of 18-year-olds are the only real concern of the Brown Paper, as they have been the only real concern of higher education policy for some considerable time. But there are not only mature students, there are also post-graduates, and there is the important role of British universities for students from overseas. One could imagine a notion of higher education in the 1990s which actually begins by giving these groups a place, and only then considers the places for 18-year-olds as well as alternatives open for them.

This leads me to a third comment on the Brown Paper to which I turn with great hesitation, because it concerns question xiv about the role of different institutions. It is difficult to discuss this subject without appearing to defend vested interests, and I am not unaware of the fact that the debate on the binary system is even now unresolved. However, I have yet to see an education system which offers places to 13, soon 15 and even 20 per cent of each age group without either differentiating between institutions or running down the whole system to a level of mediocrity.

It is understandable that a publicly financed system tends to apply the same rules and criteria to all institutions. Also, it is by now a familiar fact that there is a kind of "Schedule II law of imitation": whatever the most highly regarded institution does, is not so much accepted a result of its special function, but seen as a target for all others to achieve, especially in terms of emoluments and apparent privileges.

But despite such observations, it seems to me at least unlikely that more than 5 per cent of each age group would benefit from institutions which systematically combine research and teaching, or would wish to be in such institutions. (In a sense, the present graduate intake is a better index of the proportion of university students in the traditional sense than the present undergraduate intake.) The remainder is looking for, and should find, a higher education which emphasizes teaching and, wherever possible, maintains links with practical concerns. When the word "polytechnic" still had meaning, it was not a bad description of the intention of such links. Differentiation can take many forms; it does not have to be a separation of institutions; but unless such differentiation increases rather than decreases, the qualitative cost of expansion will be high.

Let me add that there are other answers to the questions raised in the Brown Paper, to which I will return in a later column. My plea today is really confined to a simple point: let us not merely extrapolate existing assumptions and approaches, but look at higher education in terms of what is desirable in the 1990s!

NOTICE BOARD

Chairs

Mr Maurice B. Line has been appointed professor associate in the Postgraduate School of Librarianship and Information Science at the University of Sheffield.

The title of professor has been conferred upon **Douglas Garbutt**, head of the department of accountancy and economics at Dundee College of Technology.

Mr K. Boddy has been appointed to an honorary professorship in medical physics from April 17 the date on which he takes up his appointment as head of the Regional Medical Physics Service, at the University of Newcastle upon Tyne.

Mr C. H. Feinstein, fellow and senior tutor of Clare College, Cambridge and lecturer in economic history, University of Cambridge, has been appointed to the chair of economic and social history at the University of York from October 1.

Mr G. G. Bloodworth, reader in electronics at the University of Southampton, has been appointed to the chair of electronics and to the headship of the department from October 1.

Professor David Thomas has been appointed to the chair and headship of the department of geography in the University of Birmingham from September 1. Professor Thomas has been head of the department of geography at St David's University College, Lampeter.

Forthcoming events

The first residential conference on American popular music is to be held at Exeter University this weekend, March 17-19. Residential fee: £18.50, non-residential £4. Further details from David Horn, University Library, Prince of Wales Road, Exeter EX4 4PT.

* * *

"The Uses and Application of Sociology", the fifth annual conference of the Organization of Sociologists in Polytechnics and Cognate Institutions, will be held from March 21 to 23 at the Northern Counties Site of Newcastle upon Tyne Polytechnic. Further details from John Newton, department of behavioural studies, Northumberland Annexe, Newcastle upon Tyne Polytechnic, Newcastle NE1 8ST.

* * *

A conference on "Computers in Higher Education" is to be held at the University of Lancaster from March 29 to 31. Further details from Dr E. D. Tagg, department of mathematics, Lancaster University, Lancaster LA1 4YL.

* * *

"Development and Planning in Further and Higher Education", the annual conference of the Association of College Registrars and Administrators, will be held at East Sussex College of Higher Education from March 30 to April 1. Further information from J. W. A. Strawson, Madeley College of Education, Madeley, near Crewe CW3 9HY.

* * *

"Knowledge for What", a conference organized by the Higher Education Group, St Anne's College, Oxford, will be held there from March 31 to April 3. Speakers include Patrick Nuttgens, director of Leeds Polytechnic. Further details from David W. Hilde, HE Conference Organizer, 38 Elmfield Gosforth, Newcastle upon Tyne NE3 4RB.

* * *

"Circulars 323 to 3/75: Religious General Studies" is the theme of a national study conference of the Association for Liberal Education, Region, to be held at Christ's College, Canterbury, from March to 31. Further information from Young, Medway and Maidstone College of Technology, City Way, Rochester, Kent ME1 2AD.

* * *

"Computers for Image Making" is the theme of the annual conference of the British Universities Film Council, to be held at University College, Cardiff, from April 6 to 7. Further details from the British Universities Film Council, 81 Dean Street, London W1 6AA.

Awards

Dr Gilbert Lewis, department of social anthropology, Cambridge University, and **Dr John Jansen**, department of anthropology, University of Kansas, have been jointly awarded the Wellcome Medal for Research in Anthropology as applied to medical problems, 1978.

Mr J. P. Carpenter and **Mr A. H. Hale**, assistant directors of the Central Bureau for Educational Visits and Exchanges, were both named as *Chevaliers* in the *Ordre des Palmes Academiques* in the French Government's New Year List. It is thought to be the first time that a British organization has been doubly honoured in this way. In addition, Dr T. W. Taylor, who has just retired as the Bureau's schools adviser, was awarded the Cross for Distinguished Service by the Government of the Federal Republic of Germany.

Professor Henry Ashton, professor of pathology at the University of London, has received the Medaille Goulin 1978 from the University of Lausanne.

Appointments

Universities

Durham

Chairman of the Council: Dr Peter W. Reynolds; principal of St Cuthbert's Society: Professor J. L. Brooks; dean of the faculty of science: G. M. Brown; dean of the faculty of music: B. A. S. Primmer; dean of the faculty of social sciences: J. L. C. Machin; dean of the faculty of law: Professor F. S. Dowrick; Chairmen of boards of studies—English: Professor T. W. Craik; economic history: Dr D. Bythell. Lecturer: Dr James R. Bumby (engineering).

Lancaster

Promotion to senior lecturers: Dr H. Huddart (biological sciences); M. J. Osborne (classics and archaeology); Dr S. N. Bennett (educational research); Dr J. C. Probyn (English literature); Dr R. Macdonald (environmental sciences); Dr C. H. Church (European Studies); Dr N. J. Heale (history); Dr C. T. J. Dodson (mathematics); Dr G. R. Pickett (physics); Dr S. W. Duck (psychology); Dr K. L. Southill (sociology). Lecturers: David H. Brown (systems); Michael J. Winstanley (history).

Leeds

Visiting professor: Professor Ali Mazuri (modern commonwealth history).

Leicester

Reader: Dr M. D. Biddiss (history). Lecturers: Dr J. B. Cookson (pharmacology and therapeutics); M. L. Davies (German); Dr L. Sampson (biochemistry). Honorary lecturer: Dr R. Hetherington (psychology). Computer officer: J. L. Beckett.

Liverpool

Senior assistant registrar/personnel officer: C. W. Roberts. Safety adviser: Dr C. H. Bowes. Lecturers: Jocelyn G. Price (English language); G. C. G. Ward (English literature); D. J. Cole-Hamilton (inorganic, physical and industrial chemistry); M. O. Lobb (obstetrics and gynaecology); A. R. Williams (pathology); Dorothy M. Fielding (clinical psychology); A. R. Taylor (surgery); W. R. Day (social work education division, Institute of Extension Studies). Computer officer in mechanical engineering: R. P. Hornby. Deputy librarian in the University Library: M. S. M. Hannon. Assistant librarian: Wendy Spalton.

London

Readers: E. H. K. Allen (mineral industry at Imperial College); E. E. L. Gerring (veterinary surgery) and Dr J. K. White (civil engineering) both at the Royal Veterinary College. Conferment of title of reader: Dr J. Brostoff (clinical immunology—Middlesex Hospital Medical School); Dr M. W. Elves (immunology—Institute of Orthopaedics); Dr M. N. Hughes (chemistry—Queen Elizabeth College).

UMIST

Lecturers: Dr P. J. Hicks and P. G. Depledge (electrical engineering and electronics). Tutor and senior lecturer: Dr Raymond Leonard (total technology).

Newcastle upon Tyne

Podler lecturer: Professor Sir James Baddiley; Tilden lecturer: Professor Jim Turner.

Oxford

Senior scholarships: Michael William Hart and Robert James Waller (modern history); Paul Taylor (English literature). Junior research fellowships: Richard George Ratcliffe (chemistry); Simon Ross Barker (mathematics); John David Charles Rosamond (microbiology); Daniel R. Kardin (English literature); Hemangini fellowship: Sir Zelman Cowen (New College). Official fellowship and lectureship in philosophy: C. A. B. Peacocke (New College). Visiting research fellow: Professor J. E. Crowe (Merton College). Bampton lecturer: The Very Rev Eric Williams Heaton. Nellie Wallace lecturers: Dr G. H. Von Wright, professor of philosophy at the Academy of Finland, Helsinki; Dr L. E. Rossi, professor of classical philology in the University of Rome.

Southampton

Secretary and registrar: D. A. Schofield.

York

Research assistants: I. D. Cottam (computer science); Yvonne Ellis (psychology). Assistant librarian Grade II A: K. G. Boulton.

Honorary degrees

Bath

The following will be awarded honorary degrees at degree congregations being held in June and September:

LLD: Mr Roy Jenkins, president of the European Commission.

DSC: Lord Rothschild, chairman of Rothschilds Continuation, and chairman, Royal Commission on Gambling; Sir Arnold Weinstock, managing director, General Electric Company; Professor Sir Hugh Ford, professor of mechanical engineering, Imperial College; Professor Rodney Hill, professor of mechanics and solids, University of Cambridge; Professor Dorothy Hodgkin, president of the British Association and chancellor, Bristol University; Professor Sir Sam Edwards, chairman of the British Academic Council and John Humphrey Plumb professor of physics, Cambridge University; Sir Ieuan Maddock, secretary of the British Association.

Exeter

Honorary degrees will be awarded in July:

LittD: Mr Alfred Kenneth Hamilton Jenkin, historian of the Cornish tin mining industry.

DSC: Mr Geoffrey Clough Ainsworth, mycologist.

LLD: His Honour Judge Lord Mackenzie Stuart.

MA: Mr Roger J. Kraut, Mayor of Exeter.

Wednesday March 22

BBC 1

6.40 Fundamentals of human economy: Supply and demand (1) [2125]; Problems of inflation (1) [2126]; prog 4).

7.05 Labour Relations (1) [2127]; prog 4).

BBC 2

6.40 Spectrum under stress [2128]; prog 4).

7.05 The future of chemistry [2129]; The nature of chemistry [2130]; prog 4).

7.30 Inquiry on agriculture [2131]; Farming and the countryside [2132]; prog 4).

10.55 Information technology for the Third World [2133]; prog 4).

11.20 Information technology: Impact on employment [2134]; prog 4).

11.45 Electronics in Britain [2135]; prog 4).

12.10 Graphics: Catch Your Station [2136]; prog 4).

18.35 Arts foundation course: Interaction [2137]; prog 4).

RADIO 3 (VHF)

6.00 Early development: Close Profile [2138]; prog 4).

6.20 Early development: Theatre [2139]; prog 4).

6.40 Twentieth century history: Poetry of the First World War [2140]; prog 4).

17.45 Urban development: Radar at the Office [2141]; prog 4).

18.05 Methods of educational investigation: Scientific method [2142]; prog 4).

18.28 Structure bonding and the periodic table [2143]; prog 4).

18.45 Literature and the reader: Poetry [2144]; prog 4).

19.06 Environment and Man: Fuel [2145]; prog 4).

19.30 Science behind the Roots and Bushes (1) [2146]; prog 4).

Thursday March 23

BBC 1

6.40 Spectrum under stress [2147]; prog 4).

7.05 Chemistry and Man [2148]; prog 4).

7.30 Inquiry on agriculture [2149]; prog 4).

10.55 Information technology: Artificial Intelligence [2150]; prog 4).

11.20 Information technology: Applications and society [2151]; prog 4).

11.45 Electronics in Britain [2152]; prog 4).

12.10 Graphics: Catch Your Station [2153]; prog 4).

18.35 Arts foundation course: Interaction [2154]; prog 4).

RADIO 3 (VHF)

6.00 Early development: Close Profile [2155]; prog 4).

6.20 Early development: Arthur Mee [2156]; prog 4).

6.40 Social work: Community work and social work [2157]; prog 4).

17.45 Urban development: Radar at the Office [2158]; prog 4).

18.05 Methods of educational investigation: Scientific method [2159]; prog 4).

18.28 Structure bonding and the periodic table [2160]; prog 4).

18.45 Literature and the reader: Poetry and Drama [2161]; prog 4).

19.06 Environment and Man: Fuel [2162]; prog 4).

19.30 Science behind the Roots and Bushes (2) [2163]; prog 4).

Friday March 24

BBC 1

6.40 Spectrum under stress [2164]; prog 4).

7.05 Chemistry and Man [2165]; prog 4).

7.30 Inquiry on agriculture [2166]; prog 4).

10.55 Information technology: Artificial Intelligence [2167]; prog 4).

11.20 Information technology: Applications and society [2168]; prog 4).

11.45 Electronics in Britain [2169]; prog 4).

12.10 Graphics: Catch Your Station [2170]; prog 4).

18.35 Arts foundation course: Interaction [2171]; prog 4).

RADIO 3 (VHF)

6.00 Early development: Close Profile [2172]; prog 4).

6.20 Early development: Arthur Mee [2173]; prog 4).

6.40 Social work: Community work and social work [2174]; prog 4).

17.45 Urban development: Radar at the Office [2175]; prog 4).

18.05 Methods of educational investigation: Scientific method [2176]; prog 4).

18.28 Structure bonding and the periodic table [2177]; prog 4).

18.45 Literature and the reader: Poetry and Drama [2178]; prog 4).

19.06 Environment and Man: Fuel [2179]; prog 4).

19.30 Science behind the Roots and Bushes (3) [2180]; prog 4).

Alternative broadcasts for north Scottish and Welsh transmitters

24.00* Personality and learning: Motivation and the Mature Learner [2181]; prog 5).

00.20* Renaissance and reformation: The Platonic Tradition before the Renaissance [A201]; prog 6).

00.40* Literature and society: Drama or Understanding: The Power of Realism [A202]; prog 7).

Open University programmes March 18 to 22

Saturday March 18

BBC 2

7.40 Anglo-Saxon urban history: Lincoln: The Lawgiver's City [A251]; prog 5).

8.05 Technology foundation course: Telemetering [T100]; prog 3).

8.30* Language and communication: Edinburgh Observed [A101]; prog 3). Doing linguistics: Einstein [A102]; prog 3).

8.55* Cognitive psychology: Defining the field [D303]; prog 5).

9.20* Engineering and human spaces: Line [E351]; prog 5).

9.46 Great Britain 1760: Sources and historiography: Enthusiasm of Mr Pitt [A305]; prog 4). A study in industrial archaeology [A301]; prog 4).

10.10 Technology foundation course: Having Ideas and Handling Materials [T102]; prog 3).

10.35* An introduction to materials: Crystallography [T251]; prog 7). Morphology of cells and organisms: Active transport [A251]; prog 5).

11.00* The nature of chemistry: Stereochemistry—Conformational Analysis [C254]; prog 5).

11.25* Communication systems: Modulation [T231]; prog 4).

11.50* Technology, education and society: The Anchor Booth [B355]; prog 3).

12.15 Man's religious quest: Pilgrimage in the Hindu Tradition [A203]; prog 2).

12.40 Elements of music: Score Reading [A231]; prog 11).

13.05* Education and the urban environment: Tower Hamlets [E361]; prog 3).

13.30* Education and the urban environment: Tower Hamlets [E361]; prog 4).

RADIO 3 (VHF)

6.00 Computing and computers: Writing a BASIC Programme [TA251]; prog 6).

6.30* Urban development: Craft, Industry and Back-street Education in Bethnal Green [U201]; prog 5).

6.40 The age of revolutions: Wilkinson, the Iron King [A204]; prog 6). Science and Technology foundation course: Simon Lyde [T101]; prog 3).

7.00 Arts foundation course: Art and the Historian [A100]; prog 3). Looking Inside: Art and the Public [A208]; prog 3).

7.40* Mathematics foundation course: Foundation Maths 5 [M101]; prog 3).

RADIO 4 (VHF)
Not on north Scottish and Welsh transmitters

9.05 Open Forum—6.

9.20 Man's religious quest: Devotional Hinduism [AD208]; prog 2).

9.40* Earth science: Rocks and Minerals: The Weathering Cycle [S103]; Sedimentary Rocks [S353]; prog 7).

10.00 Schooling and society: Bowles and Gintis Programme 2 [E202]; prog 5).

10.20 Social work, community work and social welfare from Above [D302]; prog 4).

10.40 Thought and reality: Central Themes in Wittgenstein's Philosophy: Mathematical Atomism [A402]; prog 5).

11.00* Class, communication and society: Drama or Understanding: The Role of Prose Fiction [B355]; prog 3).

11.20* Modern art from 1848 to the present: Styles and Social Movements: Part 2 [A361]; Painting [A351]; prog 3).

11.40* The nineteenth-century novel and its legacy: The Nature of Knowledge [A365]; prog 3). Science and Technology foundation course: Technology and Information. The Patent: Tradition before the Renaissance [A207]; prog 6).

12.20 Man's religious quest: Devotional Hinduism [AD208]; prog 2).

12.40* Mathematics foundation course: Foundation Maths 5 [M101]; prog 3). Engineering mechanics—Continuum Mechanics [E241]; prog 5). Science and the Mature Learner [E304]; prog 5).

13.00 Patterns of inequality: Stopping the Population Explosion [D302]; prog 5).

13.20* Social environment and politics: Marxism and Social Class [A343]; prog 5).

13.40* Decision making in British education systems: Cuts in Education Expenditure [U252]; prog 5). Technology, images and information: Why Four-Letter Words? [T206]; prog 3).

14.00 The handicapped person in the community: Personal and Social Problems [D231]; prog 5).

14.20* Telecommunication systems: Pulse Code Modulation [T321]; prog 1).

RADIO 3 (VHF)
Alternative broadcasts for north Scottish and Welsh transmitters

24.00* Schooling and society: Bowles and Gintis: Programme 3 [E202]; prog 5).

00.20* Earth science topics and methods: The Western Canadian Sedimentary Basin [S353]; prog 7).

00.40* Man's religious quest: Devotional Hinduism [AD208]; prog 2).

Sunday March 19

BBC 2

7.40 Making sense of society: Guernsey: Outside Influences [D101]; prog 6). Science foundation course: Isotopes [S100]; prog 6). Mathematics foundation course: Rational Numbers and square root 2 [M101]; prog 6).

8.05 Analysis: Continuous Functions [A251]; prog 3). Modelling in Mathematics: Crossing the Numbers [TM351]; prog 3).

8.30 Electron microscopy and electron diffraction: The Electron Microscope [T352]; prog 3).

8.55 Topics in pure mathematics: Conservation and Dynamics [A362]; prog 5). International politics and foreign policy: The Super Crisis—Britain and the Arms Race [D301]; prog 3).

9.20* Science and organisations: BBC Interview [U252]; prog 3). Organisations—1: The Public Library, Worthington [E354]; prog 3). Organisations—2: Ashtead Pottery [E355]; prog 3). Management and Organisations: Theory of Bureaucracy [A352]; prog 3). Mathematics or Arithmetic? [A362]; prog 3).

9.46 Historical data and the social sciences: Demography [D301]; prog 3). Education, economy and politics: The Right Age [E352]; prog 3). Public administration: The Corpo and Your Enquiry [D351]; prog 2).

RADIO 3 (VHF)

6.00* Renaissance and reformation: The Platonic Tradition before the Renaissance [A201]; prog 6).

6.20* The Australian Aborigines: Human Ecology [A301]; prog 4).

6.40* Decision making in British education systems: Cuts in Education Expenditure [U252]; prog 5).

7.00 Decision making in British education systems: Cuts in Education Expenditure [U252]; prog 5).

7.20 Making sense of society: The Roots of Change [D101]; prog 6). Science foundation course: John Dalton & His Times [S100]; prog 6). Open Forum—7.

7.45* Open Forum—7.

RADIO 4 (VHF)

9.10 The revolutions of 1848: Prospect in Europe in 1848 [A324]; prog 3). The early Roman Empire: The rise of Christianity: Roman Law & the Eastern Empire: No. 1 [A304]; Trial of Jesus [A307]; prog 3). The Great Britain 1760: Sources and historiography: Ranke: A Reassessment [A401]; prog 4). Science and belief: Prescription to Darwin: The Run-Control World [A305/6]; prog 1).

9.30 The early Roman Empire: The rise of Christianity: Roman Law & the Eastern Empire: No. 1 [A304]; Trial of Jesus [A307]; prog 3). The Great Britain 1760: Sources and historiography: Ranke: A Reassessment [A401]; prog 4). Science and belief: Prescription to Darwin: The Run-Control World [A305/6]; prog 1).

9.50

10.10

RADIO 3 (VHF)

24.00 History of architecture and design: 1870-1902 Ferro-Concrete: Hennebique to Perret [A309]; prog 6).

00.20 Drama: Interpreting the Classics [A347]; prog 4). The development of instruments and their music: The Influence of Scarlatti [A304]; prog 5).

Monday March 20

BBC 1

6.40 Urban development: Examining Buildings in Bristol [U201]; prog 5). Farmington design and development: Photography and Illustration for Self-Instruction [U245]; prog 5).

7.05 Technology foundation course: Newton's Laws [M351/2]; prog 4).

7.30* Technology foundation course: Digital Computers [T103]; prog 3).

BBC 2

6.40 Systems performance: Human factors and systems failure: Introduction [U241]; The Level [U242]; Inspection [U243]; prog 5). Human performance analysis: Ergonomist and Engineer [U244]; Decomposers [U245]; prog 5).

7.05 Inquiry into urban history: Town-Time: Lancaster [A301]; prog 4).

7.30 Technology foundation course: Earth Mechanics [T104]; prog 3).

16.55* English language: Varieties of English [A301]; prog 4).

17.20 The Liberal Party [A302]; prog 12).

17.45 Urban development: A Recurring Theme [U201]; prog 5).

18.10* Mathematics foundation course: National Numbers and square root 2 [M101]; prog 6).

18.35* Technology foundation course: Sheet-making [T105]; prog 3).

RADIO 3 (VHF)

6.00 Fundamentals of statistical inference: Chancelor & Probability Distribution [MST121]; prog 6).

6.20 Genetics: Genetic Disease in Man [M257]; prog 5).

6.40* Man's religious quest: Devotional Hinduism [AD208]; prog 2).

17.45 The sociological perspective: Two perspectives [D236]; prog 5).

18.05 Macroeconomics: Supply and Demand [E241]; prog 5).

18.25 Topics in pure mathematics: Continued and Improper Subgroups [M363]; prog 5).

18.45 Superconductivity: Theory and Technology [T262]; prog 5).

19.10* Making sense of society: The Roots of Change [D101]; prog 6).

Tuesday March 21

BBC 1

6.40 The nineteenth century novel and its legacy: Charles Dickens and Great Expectations [A365]; prog 3).

7.05 War and society: The impact of war on British industry 1914-18 [A350]; prog 5). Finance and information systems into Freelance space [S152-1]; prog 5).

BBC 2

7.05 Comparative physiology: The Movement of Substance in Plants [B322]; prog 5).

7.30* Electromagnetic and electrolytic processes [T262]; prog 5).

16.55 Modelling and society: Educating the Workforce [D236]; prog 2). Decision making in industry: Consumer Case Study: Beyond Britain [U205]; prog 5).

17.45 Social work: community work and society: Area Team (1) [D305]; prog 3). The age of revolutions: The meeting on the Rhine: Eaton Industry [A305]; prog 7).

18.10 Science foundation course: Algebra and Polynomials (1) [M352]; prog 5). Mathematics foundation course: Shape [M101]; prog 6).

18.35* Technology foundation course: Alloys and Polymers (1) [T106]; prog 3).

RADIO 3 (VHF)

6.00 Computing technology: Artificial Intelligence [TA351]; prog 5).

6.20* Sociology and society: Bowles and Gintis Programme 1 [E202]; prog 5).

6.40* Social work, community work and social welfare from Above [D302]; prog 4).

17.45 Urban development: Radar at the Office [U201]; prog 5).

18.05 Methods of educational investigation: An empirical approach [E241]; prog 5). Sample [E351]; prog 5).

18.28 Decision making in British education: Broadcasts as a Source [A351]; prog 4).

18.45 Structure bonding and the periodic table: Piezoelectricity and Pressure [E351]; prog 5).

19.06 Environment and Man: Fuel [T251]; prog 5).

19.30 Science behind the Roots and Bushes [T251]; prog 5).

Wednesday March 22

BBC 1

6.40 Fundamentals of human economy: Supply and demand (2) [2125]; Problems of inflation (2) [2126]; prog 4).

7.05* Labour Relations (2) [2127]; prog 4).

BBC 2

6.40 Spectrum under stress [2128]; prog 4).

7.05 The future of chemistry [2129]; The nature of chemistry [2130]; prog 4).

7.30 Inquiry on agriculture [2131]; Farming and the countryside [2132]; prog 4).

10.55* Information technology for the Third World [2133]; prog 4).

11.20* Information technology: Impact on employment [2134]; prog 4).

11.45* Electronics in Britain [2135]; prog 4).

12.10 Graphics: Catch Your Station [2136]; prog 4).

18.35 Arts foundation course: Interaction [2137]; prog 4).

RADIO 3 (VHF)

6.00 Early development: Close Profile [2138]; prog 4).

6.20 Early development: Theatre [2139]; prog 4).

6.40 Twentieth century history: Poetry of the First World War [2140]; prog 4).

17.45 Urban development: Radar at the Office [2141]; prog 4).

18.05 Methods of educational investigation: Scientific method [2142]; prog 4).

18.28 Structure bonding and the periodic table [2143]; prog 4).

18.45 Literature and the reader: Poetry and Drama [2144]; prog 4).

19.06 Environment and Man: Fuel [2145]; prog 4).

19.30 Science behind the Roots and Bushes (2) [2146]; prog 4).

Thursday March 23

BBC 1

6.40 Spectrum under stress [2147]; prog 4).

7.05 Chemistry and Man [2148]; prog 4).

7.30 Inquiry on agriculture [2149]; prog 4).

10.55 Information technology: Artificial Intelligence [2150]; prog 4).

11.20 Information technology: Applications and society [2151]; prog 4).

11.45 Electronics in Britain [2152]; prog 4).

12.10 Graphics: Catch Your Station [2153]; prog 4).

18.35 Arts foundation course: Interaction [2154]; prog 4).

RADIO 3 (VHF)

6.00 Early development: Close Profile [2155]; prog 4).

6.20 Early development: Arthur Mee [2156]; prog 4).

6.40 Social work: Community work and social welfare [2157]; prog 4).

17.45 Urban development: Radar at the Office [2158]; prog 4).

18.05 Methods of educational investigation: Scientific method [2159]; prog 4).

18.28 Structure bonding and the periodic table [2160]; prog 4).

18.45 Literature and the reader: Poetry and Drama [2161]; prog 4).

19.06 Environment and Man: Fuel [2162]; prog 4).

19.30 Science behind the Roots and Bushes (3) [2163]; prog 4).

Friday March 24

BBC 1

6.40 Spectrum under stress [2164]; prog 4).

7.05 Chemistry and Man [2165]; prog 4).

7.30 Inquiry on agriculture [2166]; prog 4).

10.55 Information technology: Artificial Intelligence [2167]; prog 4).

11.20 Information technology: Applications and society [2168]; prog 4).

11.45 Electronics in Britain [2169]; prog 4).

12.10 Graphics: Catch Your Station [2170]; prog 4).

18.35 Arts foundation course: Interaction [2171]; prog 4).

RADIO 3 (VHF)

6.00 Early development: Close Profile [2172]; prog 4).

6.20 Early development: Arthur Mee [2173]; prog 4).

6.40 Social work: Community work and social welfare [2174]; prog 4).

17.45 Urban development: Radar at the Office [2175]; prog 4).

18.05 Methods of educational investigation: Scientific method [2176]; prog 4).

18.28 Structure bonding and the periodic table [2177]; prog 4).

18.45 Literature and the reader: Poetry and Drama [2178]; prog 4).

19.06 Environment and Man: Fuel [2179]; prog 4).

19.30 Science behind the Roots and Bushes (3) [2180]; prog 4).

Alternative broadcasts for north Scottish and Welsh transmitters

24.00* Personality and learning: Motivation and the Mature Learner [2181]; prog 5).

00.20* Renaissance and reformation: The Platonic Tradition before the Renaissance [A201]; prog 6).

00.40* Literature and society: Drama or Understanding: The Power of Realism [A202]; prog 7).

Noticeboard is compiled by Patricia Santinelli and Mila Goldie

If the DES had not stepped in someone else would have, Judith Judd reports

Oxbridge fees brought under public control

Oxbridge colleges, one of the anomalies of university financing, have come under Government scrutiny during the past 12 months. In May the Secretary of State for Education wrote to them suggesting that the fees paid to colleges should be brought under public control.

The catalyst for her action was the Government decision that all university fees should be automatically paid from public funds. This decision raised the question of fees which students pay to colleges on top of the university fees fixed by the Government. Should there be a limit to the commitment of local authorities to support Oxbridge colleges through student fees?

Oxford and Cambridge are the only two universities where the dual system of fees exist. Though places such as Lancaster and York have colleges which charge fees, there is an implicit formal arrangement with the University Grants Committee that the amount of money they receive is adjusted accordingly.

Oxbridge colleges have two main sources of income, endowments and college fees which account for more than 50 per cent. The fees cover registrations, examinations, the maintenance of buildings and student amenities. Most important and most expensively, they cover the cost of tutorial teaching.

In Oxford the consolidated college fee varies from £900 to £1,000. In Cambridge the difference between colleges is greater. Last year the lowest fee was around £500, the highest around £900. The amount of money involved is thus substantial. Hence the DES concern.

The arguments about whether the duplicated system of college and university finance make Oxbridge more expensive to run than other universities are nicely balanced. The colleges point out that they receive no UGC money for the services they provide. The UGC grant only goes to maintain institutions which are supported by the university not the colleges, such as the Cavendish laboratories in Cambridge.

The published figures of total public support from the UGC and local authority fees suggest that spending per student is somewhat higher than elsewhere but the variables make accurate assessment difficult. Nor are Oxford and Cambridge strictly comparable. At Oxford the university provides less services than it does at Cambridge so that a greater burden falls on the colleges.

The reason for the DES move was not that it believed the fees charged by colleges were exorbitant or that they had been raised irresponsibly. There was no evidence to suggest that fees had been put up more than was necessary to keep pace with inflation. The DES worry arose from the fact that it was entirely up to the colleges themselves to decide what fee they should charge. The Government had no guarantee that the colleges were being run as cheaply as they might be.

If the DES had not stepped in, someone else would have done. In the Appropriation Accounts for 1976-77, the Comptroller and Auditor General expresses concern about the lack of accountability in the current Oxbridge fees system.

The original DES proposal was that there should be a standard college fee which would be paid by local authorities for every student. The colleges were never happy about this. Mr D. J. Wenden, bursar of All Souls who has led the colleges in talks with the DES says that the great weakness of this scheme was its assumption that all colleges were the same with similar endowments and responsibilities for building. Even colleges which are fairly well endowed may have expensive buildings to keep up, such as Christ Church, Oxford.

Officials at the DES felt that the standard fee proposals might have worked at Oxford but not at Cambridge. Oxford, which had the Franks Commission, has arrangements which allow some redistribution of wealth between the rich and poor colleges.

The alternative which the DES and the colleges have come up with after nearly 12 months of negotiations is a proposal for an average annual increase in fees which will be worked out as a percentage. The details of the plan are still being decided though it is hoped that it will be in operation by the autumn and that discussions to fix this year's increase will take place in May. The discussions will be between the DES and the colleges, though the restraining hand of the Treasury will, of course, be felt.

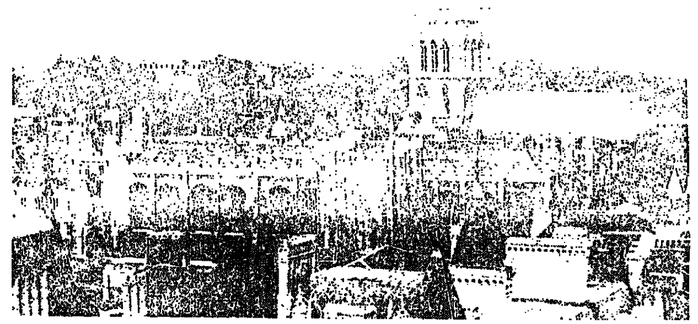
Once the average increase and thus the total amount of money has been decided a college fees committee will decide by how much each college should raise its fees in the following year. All the colleges will elect the committee members.

Mr Wenden says this will be much more flexible than the original proposal. Poorer colleges may wish to charge more than the average, and so may rich colleges which have in the past had low fees. In any case, the variations in endowment and buildings will be taken into account as they are at the moment.

Some people in the two universities take a more extreme view. In November an anonymous leading article in the *Cambridge Review* saw the proposed tightening up as a threat to the colleges' independence and to the tutorial and supervision system which is the hallmark of Oxbridge teaching. If the colleges failed to get enough money to pay their tutors, it argued, undergraduates might conceivably have to pay a proportion of the fees themselves. "The colleges' duty is to provide the best possible education. Responsibility for the payment of fees lies elsewhere." The university's independence had already been eroded and the colleges were threatened with the same fate.

The colleges are still worried about some implications of the average fee arrangement. Is the amount fixed in April or May of one year still going to appear adequate at the same time of the following year? The University Grants Committee which negotiates with the Government over the universities' recurrent grant can give a supplementary grant if inflation exceeds the amount of money originally fixed. In the case of the colleges such a grant would be impossible.

This problem may well have to be confronted in the immediate future when the Government carries out its promise to right the university teachers' pay anomaly. Much of the colleges' spending is on teaching staff and a 30 per cent increase in academic salaries—the amount needed to right the anomaly—would mean a rise of 20 per cent in spending. One possible solution would be to agree an artificially high fee for the following year. Changes are also expected to be made in the way in which postgraduate fees are fixed after discussions with the colleges and the research councils. Because the colleges spend less time teaching postgraduates these will be lower.



Trinity College, Cambridge; financial anomaly of dual system of fees at Oxbridge colleges is ended.

COURSES

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(by Professor David Adams, Department of American Studies, University of Keele).
THE NINETEENTH-CENTURY ROOTS OF TWENTIETH-CENTURY FOREIGN POLICY
(by Professor Charles Campbell, Claremont Graduate School, California, visiting Fulbright Professor at University of East Anglia).
Panel discussions on:
THE EFFECTS OF COLD WAR ON DOMESTIC USA
(by Phil Davies, University of Manchester); and
THE MILITARY INDUSTRIAL COMPLEX
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ROWLANDSON DRAWINGS
4th March–21st May
210th SUMMER EXHIBITION
20th May–13th August
VICTORIAN POPS
24th July–17th September
PORTUGUESE ART
2nd September–1st October
RODRIGO MOYNIHAN
9th September–22nd October
ALVAR AALTO
16th September–15th October
ANTHONY GREEN R.A.
14th October–12th November
THE GOLD OF EL DORADO
18th November–Mid-March 1979
THE ROYAL ACADEMY OF ARTS
Burlington House, Piccadilly, London W1

Black Rhodesian academics map out Africanisation

The University of Rhodesia has 372, academic, administrative and library staff positions of which just 31 are currently allocated to blacks. Twenty-six of these black staff members have just drawn up their views on the Africanization of the university in Salisbury if a constitutional settlement is reached.

The document, prepared in response to a paper entitled "The University and Constitutional Change" by Professor Robert Craig, the principal, is the first to be publicly circulated by the university's black staff. It is published in full for the first time by The TIES.

The African university must be part of the African society. The university in Africa cannot be discussed outside the framework of the political, socio-economic and cultural development of the state and the society in which it is located. In colonial times universities reflected the then existing political, socio-economic dominant cultural set-up. The personnel, both administrative and academic, were white. The curriculum also reflected the metropolitan power's cultural and economic interests. Thus, universities in Africa were patterned on identical lines to universities in Western Europe and North America.

In post-independent Africa, the role of the university is connected with the consolidation of hard-won political independence and the wide variety of expectations of the African masses with the socio-economic and political benefits of independence.

While accepting the delays due to history, we can affirm that Africanization of universities in Africa is essentially imperative, not as an end in itself but as a means to attain universal truth. Africanization must be adapted to the conditions actually prevailing in each country. The basic principle behind the concept of Africanization could be summed up in the words of Zenon Nicayenzi when he said, "The African will educate an African. For this, the African teacher will have to satisfy the same standards as other teachers elsewhere. These standards will not be identical but equivalent. It is the African teacher who will teach his African pupil the principles and means of development peculiar to Africa."

Africanization should be tackled on three main fronts:—

(1) Africanizing the curricula;

(2) Africanizing the Administrative staff; and

(3) Africanizing the academic staff.

The principle behind Africanization in all three parts is that the development of an African country like the future Zimbabwe can be carried out satisfactorily only by Africans. It is in the primary schools, secondary schools, teachers training colleges, technical colleges and universities that Africa will carry out its true economic, social and cultural revolution. Only the African will be able to teach the African pupil and student how and why we must carry out the revolutionary tasks.

The so-called exact or natural sciences will not change, only the manner in which they are taught. But philosophy and the humanities will have to undergo considerable transformation in order that the new social and political order might adequately be interpreted from an African perspective sensitized by an African experience. The Africanization of an African university cannot be considered a sign of blind nationalism or any kind of hostility towards European culture. It is an acknowledgement of the fact hitherto ignored, that universities are set up to serve the academic and intellectual interests of Africa and the Africans.

It is also an open admission that universities in Africa are essentially African universities which must reflect the hopes, fears and aspirations of the African people. In no case can Africanization be considered as a desire on the part of Africans to cut themselves off from the rest of the world. The goal of Africanization in our view is to make the African universities more useful and more efficient so that they will be able to respond to the immediate needs of Africa. If we insist on the necessity and urgency of Africanization, it is simply because we want to see our university play its true role and serve the African people in their task of economic reconstruction and human development.

Some persons of ill will, will accuse us "racism" because for them Africanization means the expulsion of all non-African teachers and their replacement by Africans whether competent or not. It has never entered our minds as Africans to entrust to less qualified personnel the job of educating our young people.

While Africanization is a policy we strongly advocate, there are people of non-African or non-black origin who have identified themselves with the African cause. Such people come under our definition of Africans provided they are committed to the new Zimbabwe nation. On the other hand, there are men and women at this university who have made it their duty over the years to obstruct African progress in the appointment and promotion of staff. Such people will have to go. Racial discrimination has been largely responsible for the low number of African staff in the established posts.

It must be stressed that even if Africanization comes about immediately, that will not mean that Zimbabwe was choosing isolation. We live in a world of academic interdependence and the experience of others, especially of non-Western nations, will counterbalance the flood of Western ideas and culture which have shaped our political, cultural and economic institutions.

Already we have too much Western influence in the form of teachers and administrators. And most, if not all of us, black teachers and research fellows are unwitting carriers of Western values and influences among our own people. If a future free Zimbabwe is to be truly free and non-aligned, Western cultural aggression has got to be arrested and uprooted. Our university must not remain an instrument to strangle African culture progressively, but rather the centre where the cultural heritage of our national past is preserved.

The advantages of Africanization are:

(a) the removal of racial discrimination in the hiring and promotion of staff;

(b) international teaching and research contacts;

(c) increase in student numbers;

(d) a strong vocational emphasis;

(e) making the education that is provided much more African in content;

(f) making the university much more society oriented.

A policy of Africanization should be pursued at all levels:

(i) We reject the ambiguous and meaningless concept of "localization" of staff used in the principal's paper. The concept has been abused in certain departments by employing and promoting resident whites at the expense of qualified blacks.

(ii) We also reject the principal's suggestion that such Africanization should begin at the bottom, that is, at the Teaching Assistantship level. There are many qualified Africans here and abroad who are willing to take up senior positions in the university. The problem is not one of shortage of manpower, but of racial discrimination.

(iii) In order to effect a policy of a complete restructuring and reorientation of the university it is essential that many senior positions be Africanized without delay. We know from experience and from personal knowledge of the persons now in senior positions that many of them would resist change. Therefore, if no changes are made at the top many of the recommendations both in the principal's paper and in our paper will never be implemented.

The existing policy of restricted staff advertising must be abandoned immediately. There must be a global advertising policy. In summary, the African university like the University of Rhodesia must:

(1) produce national cadres able to give Africa the services needed for her economic, political and cultural development;

(2) become the centre for the study, preservation, illustration and dissemination of authentic African culture and ideas;

(3) produce students who remain as an integral part of a classless society; and

(4) produce students who regard themselves in Nyerere's words "as servants-in-training".

These are some of the most vital and difficult functions of a university in Africa.



Black students at the library of the University of Rhodesia.

Guy Neave on the increasing debate over France's leading institutes

Grandes ecoles may face reform in election year

Since the start of the university year, the ferment in France's *grandes ecoles* has been well-nigh continuous. Strikes, agitation and, to cap it all, the proposal by students of the *Ecole Nationale d'Administration* (ENA) that it be abolished and merged with the university swamp. The future of this prestigious body of institutes is also the subject of increasing debate, particularly on the Left. In this article, we will look at some of the suggestions put forward to reform the *grandes ecoles*.

To foreigners, the best known of the *grandes ecoles* are the *Ecole Polytechnique* and the *Ecole Nationale d'Administration*. The former, founded in 1794, trains high-level engineer administrators for the state technical corps, for the armed services and for high-level civil service jobs. The latter, founded in 1945, grooms the less mathematically minded for administrative appointments in fields such as the tax inspectorate, the council of state, the state comptroller's office (*cour des comptes*) and the diplomatic service. The two are deadly rivals. According to scandal-mongers *enarques* (the denizens of ENA) speak rarely to *polytechniciens* and *polytechnicions* speak only to God—or to the president when advising him!

The *grandes ecoles* may, broadly speaking, be compared to a cross between the civil service college and a graduate engineering faculty or, in a certain number of cases, a graduate business school. Curiously, for a system so enamoured of legal definitions, there is none to describe a *grande ecole*.

As a rule of thumb, it may be said that they are institutes of teaching at a post *baccalaureat* level and are neither a university nor a university institute of technology, still less a higher technician's section. Nor is it a "super sixth form" (*classe preparatoire*). On this definition, admittedly broad, some 250 establishment can claim *grande ecole* status.

Of these 160 specialize in engineering education of various sorts. A further 60 teach business administration and management studies, six specialize in the literary fields, the *Ecole Normale Supérieure* being the most outstanding—and three are officer cadet schools for the armed services. Most of them require two to three years intensive study in a super sixth form merely to be able to sit the entry examination which is astoundingly competitive. It is for instance, commonly reckoned that students completing three years in a super sixth form are at least the equivalent to university graduates in their attainment and knowledge.

They are also extremely difficult to get into. Take the case of ESSEC. Last academic year, 4,007 candidates clamoured for admission. Only 214 were accepted. Take *Polytechnique*. Simply to be eligible to sit the competition requires a minimum of two to three years in the special mathematics section of the super sixth form. This alone is difficult enough for there are only 182 super sixths throughout France and not all of them provide this special curriculum. Of the 1,917 candidates last year, 300 were accepted.

If the interest of political parties in these top establishments is growing, this reflects in turn, growing student activism in the *grandes ecoles*. Such militancy is, to say the least, unusual. Even at the height of 1969, the *grandes ecoles* remained aloof, serene and untroubled by the uproar on the streets and in the university, a detachment which more than recommended the products of these institutes to employers as sober and reliable men. The position is changing, however. Student unionism has arrived in the shape of the *Union des Grandes Ecoles*, closely aligned with the left wing *Union Nationale des Etudiants de France*. Membership of this union is now claimed by some 121 out of the total 250 institutes—a notable feat.

Although the bulk of the criticism directed against the *grandes ecoles* comes from the left of centre to Left wing parties, the employers' association—the *Fédération Nationale du Patronat Français* (CNPF)—has added a more nuanced proposal for reform.

To the radical socialist party, one of the major barriers to opening the top administrative posts to private sector enterprise, to new talent is the high degree of selectivity. The development of new scientific courses is hindered by the rigidity of the courses and the monolithic nature of the curriculum, its members believe. In this they have the backing of the employers' federation. More emphasis should be placed upon the problems of technology application, feels the *Patronat*, and this should come in the first year of the syllabus, not the second. In addition, less stress should be laid on fundamental theory, which ought to come in the second year of the courses. Finally, the *Patronat* is in favour of easing entry conditions to the *grandes ecoles* in the hopes that this will attract more applicants with a practical and technological bent, rather than theoretical experts in mathematical arcania.

To the radical socialists, the solution lies in bringing together all the *grandes ecoles* either as universities or as polytechnical institutes. And the present competitive entry examination should be replaced by selection on the basis of school record cards or on the basis of degree results "as is the case in all other advanced countries".

Employers do not share this view, however. They propose that moves between university and *grande ecoles*, at present excessively rare, should be made more easy, both for students and for lecturers. If the social segregation is down, the *Patronat* reckons, better link courses are the answer.

François Mitterand's Socialist Party is somewhat more daring. It looks forward to a progressive integration of the *grandes ecoles* into the universities. From this improbable coupling a new type of institute would emerge. Yet, it is vital to retain the multi-disciplinary approach with its emphasis on vocational training upheld by periods spent in industry or state administration, the socialists feel.

However, administrative changes are needed, says the Socialist Party. First, all *grandes ecoles* should come under a single ministry. Second, the syllabus taught in the super sixth forms should gradually be brought into line with the first two years at university, thus broadening the "pool" from which state administrators and top-level management are drawn in the future.

Not dissimilar are the proposals put forward by the Communist Party. Certainly, the CP backs the idea of bringing the *grandes ecoles* closer to the universities. The former, however, are to be guaranteed autonomy in both finance and teaching. Basically, the Communists argue, university and *grandes ecoles* are engaged in the same undertaking. This is to provide the country with high-level, technologically trained manpower. If this is so, then the *grandes ecoles* should be under the same legal and administrative regime as the universities and this means bringing them under the umbrella of the Enabling Act (*loi d'orientation*) of 1968. At present, they remain outside it.

Whatever one's feelings about the *grandes écoles*—whether they are merely institutes for the dusting up of the qualifications of traditional elites and political dynasties or whether they stand as the quintessence of a peculiarly French vision of high level manpower training in administration, economics and engineering—the debate on their future is now joined. Whether it will go any further depends on the outcome of the General Election, which will be settled in the second round of voting on Sunday.

Guy Neave

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Polytechnic Profile 29 Middlesex

Unique mix of academic and architectural style

Think of a typical polytechnic problem and you will find it—in magnified form—at Middlesex. Scattered over a jumble of sites, created from an unpredictable sequence of improbable mergers, and some 2,000 students short of its staff capacity, it is the problem polytechnic *par excellence*. When it was formed in 1973 its director, Dr Raymond Rickett was warned that he had accepted one of the most difficult jobs in the binary system.

Five years later, the institution is on the brink of its third bout of mergers. In 1973 the original trio of colleges were Hendon and Enfield Colleges of Technology and the Hornsey College of Art. A year later Trent Park College of Education and New College of Speech and Drama were brought in. Now the polytechnic is in the throes of merging with another education college—All Saints.

The result is an octopus of a polytechnic sprawled in 13 sites over some 100 densely populated square miles of north London. More than 5,000 students work in an array of prefabricated huts, purpose-built colleges, former primary schools and spacious mansion houses. Fine art students paint in ramshackle studios inside Alexandra Palace; interior designers and engineering students work in the bays of a converted industrial warehouse in Bounds Green.

The mixture of academic styles is even more bizarre. Enfield college is now stomping ground of binary gurus like Eric Robinson and George Brosan—is huddled in the centre of an ugly industrial estate. Highly political, strong in social sciences and trade union studies, it had little in common with the glossy, arty and politically insular traditions of pre-occupation Hornsey.

Hendon, too, had a distinctive tradition of its own, and the teacher training colleges, leafy and serene institutions, looked upon their marriage with a scruffy and somewhat unruly polytechnic with outright alarm.

That the polytechnic has nevertheless been able to develop a precarious sense of unity owes much to a decision immediately after designation to bring in a unique form of organisation designed to bind the colleges together and destroy in one stroke their old affiliations and departmental structures.

Described as "the Middlesex matrix", and irreverently dubbed the "polytechnic starship" by a graphic designer commissioned to draw a diagram of it, the new management system has dominated academic development and discussion at the polytechnic for five years. Brainchild of Dr Rickett, its purpose is to break down subject departments and thereby allow polytechnic students from the tyranny of the discipline which characterizes much of higher education.

Under the matrix there are no traditional departments. Academic staff are aligned to one of six resource courses, and course leaders are able in theory to slop around the resource centres for whatever staff expertise they need for their courses. In the long run, the theory goes, the matrix will promote the sort of distinctive interdisciplinary courses which are an important part of the polytechnic idea.

A good example of the matrix in practice is the polytechnic's giant humanities degree —500 students strong and the first of its type to win approval from the Council for National Academic Awards. Students joining the degree are able to construct an individual programme by choosing 10 out of an astonishing 180 course modules, ranging across philosophy, law, languages, geography, drama, history of art, psychology and American studies.

Only the enormous staff base of the polytechnic makes the range of choice possible. Roger Waterhouse, the course leader, estimates that 106 academics helped to prepare the original submission for the CNAA. And yet hardly anyone teaches full-time on the course. Staff are summoned up via the matrix from all the former colleges: art historians from Hornsey, linguists, philosophers, psychologists, dramatists and historians from Trent Park, Hendon, Enfield and New College.

But the humanities degree shows up the weaknesses as well as the strengths of the Middlesex matrix. One basic difficulty arises from offering the degree on two sites—Enfield and Hendon—13 miles apart. Students do not have to travel from one to the other unless they opt for special combinations of subjects. But many teachers make the expensive and time-consuming trip around the North Circular, and library facilities have to be duplicated.

Some subject-groups in the polytechnic are alarmed by the modular approach of the humanities degree and the tendency of the matrix to break down traditional disciplines. They argue that the humanities degree is an imperialistic monster gobbling up single-subject degrees and regurgitating an unpalatable and confusing mess of modules. One group of staff fought for months to keep their degree —a BA in modern English studies—out of the humanities monolith.

The humanities programme, therefore, encapsulates two of the main flaws of the matrix. One is the threat it poses to subjects—and here the CNAA has voiced a degree of concern. The other is that the matrix, invented in the polytechnic's salad days when a move to a single site was confidently expected, may prove an inappropriate command structure for what seems likely to remain a multi-site polytechnic.

According to David Lovatt, head of the polytechnic's internal think-tank, the educational development group, the matrix was designed for a single-site institution in an era of expansion. Now that hopes of a single site, or even a large central site, have collapsed, he advocates a more devolved system. This could mean—although the proposal has not yet been put in so many words—surrendering the pure ideal of the polytechnic and accepting instead a federation of monotechnic sites.

As yet there is little enthusiasm for a monotechnic approach, but the geography of the polytechnic imposes a grim academic logic of its own. Within the next few years it expects to consolidate on five or six medium-size sites, few of which are capable of accommodating a range of large degrees. A complex at Cat Hill is purpose-built for art and design. The Bounds Green warehouse, despite its imaginative conversion, is destined to become chiefly a centre for the polytechnic's engineering courses.

In common with engineering departments elsewhere, Middlesex has been unable to recruit enough students of the right calibre, and as a result it is seriously overstaffed. Until the mid-1980s, when a substantial number of staff will retire, the polytechnic is stuck with a glut of engineering staff whose presence makes it difficult for the institution to expand in areas of high student demand.

A number of expedients have been adopted to ease the log-jam. Some staff have moved to the more shortage areas of civil engineering —others have taken up a range of more or less exotic non-teaching posts within the institution. But overstaffing has also been turned to positive academic advantage by offering engineering students tuition in unusually small groups.

For all its problems, engineering has clocked up significant achievements. In the midst of its moves from site to site the resource centre has been able to rationalize all its degrees in mechanical, electrical and civil engineering. It has devised postgraduate diplomas in transportation planning, geotechnics, heat exchange, highways and traffic, and water supply. Engineering staff also make a substantial contribution to a new degree in "society and technology", run by a philosopher.

One other area where there is little anxiety about siting and less alarm about the prospect of the polytechnic becoming a monotechnic federation is art and design. To this day, graffiti can be found on a wall in Muswell Hill proclaiming boldly: "Hornsey no poly." Of all the colleges, Hornsey was the most unhappy about a merger with a polytechnic, but it has probably been affected least.

One reason, according to John Reid, the dean, is that art and design students are wedded to their specialist equipment and cannot be transferred whimsically from place to place. A major art and design site at Cat Hill has been under development for years and will eventually house most of Hornsey's courses.

But another reason is that the polytechnic has little to offer art and design education. Cooperation between design education and industry has a tradition going back 200 years, John Reid points out: "It was not invented yesterday by Middlesex Polytechnic."

The task facing Alison Grady, dean of education and performing arts, is, however, much more difficult. In 1974 the polytechnic had about 1,500 education students, with another 600 at All Saints. By 1981 the total has to be cut to 750. Staff diversification, however, is made more difficult because the polytechnic is already a massive institution with major degree programmes under way in all areas. Trent Park staff were in no position to set up their own humanities degree, and some staff dedicated to teacher training have had difficulty contributing to the polytechnic's academic programmes.

Nevertheless, staff from the resource centre have contributed substantially to humanities and art and design, and after phasing out its old certificates and degrees the faculty has developed new degrees in the performing arts and a special BEd programme for service teachers.

Besides its concrete academic contribution, staff at Trent Park believe that the college has had a civilizing effect on the polytechnic. "You may laugh at the old college of education genteel image, but in china cups," says David Lovatt, "but there was something valuable in that which rubs off on the students." He disapproves strongly of the Enfield site. "It is an inhumane environment, an ugly site where even the new buildings they put up are ugly, and needn't be, and the inside is scruffy."

As a whole, the polytechnic is seriously overstaffed. It has the lowest staff-student ratio of all 30 polytechnics, and by pooling committee standards is either short of 2,000 students or overstaffed by 200 academics. The staff squeeze that has resulted has hit almost every course, but one of the most publicized disputes has been the reduction of teachers on the three social work courses—a move which brought intervention from the Central Council for Education and Training in Social Work.

Alf Holt, dean of social science, hopes that the academic community will eventually commit itself to safeguarding the social work courses, but he entertains no illusions about the polytechnic's dire staffing predicament. It is made worse, he says, by difficulties in maintaining Middlesex's share of the student market.

Some of the courses facing recruiting difficulties are doing so in spite of potentially high student demand. Enfield's diploma in industrial relations and trade union studies—a pioneering course aimed specifically at people actively working in trade unions—has fallen from more than 90 students two years ago to fewer than 60 now. But the main reason, according to the course leader, Alan Richardson, is that the Training Services Agency has withdrawn its TOPS awards, and students have to rely on increasingly scarce local authority discretionary awards.

The trade union courses have also suffered from staff cuts, and now they face a new threat—academic drift. Alan Richardson says that the course, which is fairly partisan in its commitment to trade unionism, has always been under pressure to transform itself into a conventional management-oriented industrial relations programme. Now, with a new one-year diploma going "creakingly" forward for CNAA validation, there are growing pressures in favour of more neutrality and objectivity.

The clampdown on staff has not, however, prevented the creation of new courses. Middlesex is particularly enthusiastic about its "two year diploma for the don't knows"—the diploma in higher education. Joel Gladstone, the leader of the course, believes that the DipHE can help break down Britain's specialist and elitist higher education system and offer wide opportunities to students who would not have gained entry in the normal way.

Determined to break down the two-A-level straitjacket, the course designers have made generous use of permission to recruit unqualified mature students—over half the DipHE intake has been accepted in this way after careful vetting. The touchstone of success for the diploma will be the ability of its students to transfer to degree programmes without loss of time.

Another innovation is the degree in European business administration, which expects its first graduates this year. Run in partnership with the *Ecole Supérieure de Commerce et d'Administration des Entreprises* at Rheims, the course has a mixed intake of English and French students, who spend two years at each institution. Gerry Earls, the course leader, claims that the only difficulty now facing the course is that it is in danger of expanding too fast and thereby undermining its high academic standards.

But while the polytechnic is rightly proud of its many new courses, the welter of course development that has dominated its life over the past decade has contributed to a serious lack of research within the institution. Dr Michael Edwards, the deputy director, concedes that for a polytechnic running more than 40 CNAA degrees, the research base is minimal. Apart from some impressive work in planning and geography, and in microelectronics, most subject areas have failed to develop their research potential.

Alf Holt, dean of social science, is particularly disappointed with the performance of his sociology group. With over 40 members it is one of the largest in the country and many the polytechnic's first masters programme—an deviancy and social policy. "Although many of its members are academically excellent, the group has not achieved anything like its potential in research, publication and higher degrees. One reason was the early importance we placed on course development. We need a new emphasis on research which was absent in the middle and late sixties."

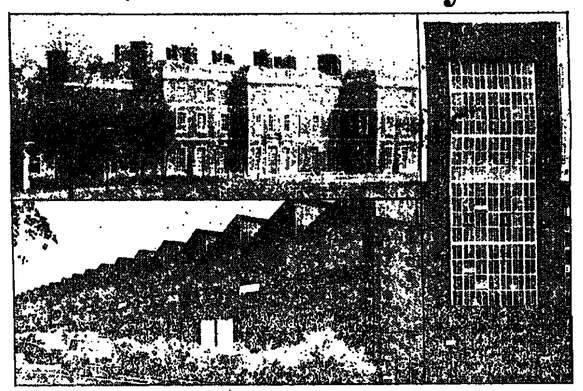
The polytechnic's directorate is also keen to make research a major promotion criteria, but many members of the polytechnic believe that the real cause of the academic malaise is inherent in the matrix system. They point to the scant status accorded to subject groups, who have no formal role in the structure, and to the lack of course loyalty induced by a system which requires lecturers to work for a number of different course leaders. More basically, the matrix is designed specifically to make the course into a focus of attention, while the discipline tends to be undervalued.

Dr Rickett concedes that there may be a grain of truth in this argument: "We have avoided the tyranny of the subject, and some people might argue that the price has been too high." But he believes that whatever the defects of the matrix, it has helped, along with the production of a professional weekly newspaper for the polytechnic, to weld the constituent colleges into one.

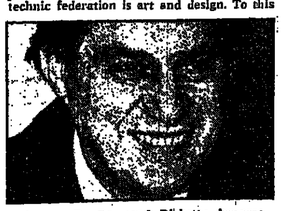
He is also optimistic about the future, despite the polytechnic's chronic overstaffing and accommodation problems. He points out that in 1973 the colleges had an overall student-staff ratio of 4.7, but that it has already been raised to about 7. For the future, he rules out massive redundancies, but warns that the polytechnic will have carefully to review and redesign many of its degrees and teaching methods if it is to move to an acceptable staffing ratio.

Dr Rickett admits to being an irrepressible optimist, and keeps a model of the Good Soldier Schweik in his office to drive the point home. But many of his colleagues are more gloomy. Alf Holt says: "The tragedy of Middlesex Polytechnic is that it was set up too late. It is only now that we are beginning to see a more coherent disposition of sites. If we had been earlier, we might have got a central site, but soon after designation we were hit by the first bout of cuts. Since then we have known nothing but the fiercest scrutiny of our budgets. My interim verdict on Middlesex Polytechnic? Not proven."

Peter David



Three faces of the Middlesex octopus: top left, Trent Park, above left, the Cat Hill, Cockfosters, site and, right, the Enfield building.



Director Dr Raymond Rickett: irrepressible optimism in the face of a "difficult job".

THE DARWIN COLLOQUIUM

This second of three articles summarizes the first half of the Darwin College Colloquium on " Professors and Professionals ", whose intention was to consider the relationship between the professions and the universities. Darwin College invited a group of eminent academics and professionals to lead the discussion of this topic. The first two speakers were Jean Floud, below right, and Moses Finley, left.



Practical and moral reasons for links



Mrs Floud proposed to give an "unhistorical" account of some of the distinguishing characteristics of those occupations we now know as professions, and some of the features which complicate their operation in a western, class-differentiated society.

She began by drawing attention to A. N. Whitehead's distinction between crafts in the ancient world and professions in the modern based on customary activities, "modified by the trial and error of individual practice", while the latter were based on an intellectual revolution involving theoretical analysis and its application. The professions have been a product of industrialization and urbanization, and the rise of the "knowledge industry", she said.

The essence of a profession is the provision of a service based on esoteric knowledge and skills to a client, on a person-to-person basis. Unlike commercial relationships this is a matter of trust, with the client obliged to reveal personal details and being unable to judge freely the services he receives.

There is, therefore, a need among professions for some protection from any unfortunate consequences of their actions, and this tends to extend professional concerns outward into the wider public and legal framework in which they operate. It fosters a need for solidarity, a sense of being a community apart, which exposes a profession to accusations of arrogance and the mystification of clients—witness Shaw's remark that every profession is a conspiracy against the laity.

The growth of professional associations after the mid-nineteenth century was related to a decline in the prosperity and respect which had been enjoyed hitherto. The associations have sought to guarantee the efficiency of their members, to devise and maintain codes of ethics, and to protect the professions from invasion by superintending recruitment.

It would be wrong to think, of this simply as a conspiracy, for a profession is based on the nature of the real services provided. As T. H. Marshall has remarked, "It is not a clever invention of selfish minds". The service role of the professions is now a powerful model for other aspiring occupational groups, for librarians, managers, insurance salesmen, social workers or nurses.

A "semi-professional" category of technical experts has undoubtedly appeared, with associations which promote prestige, ethics, training, and so on. Although they may seek to stress fiduciary roles and "scientific" techniques they do not in fact depend, as do the professions proper, on the development of judgment, art, or intellectuality.

Increasingly, professions are practised in the context of organizations; service to a corporation runs counter to the notion of person-to-person relationships, making the true identity of the client (patient or insurance company?) vague. Professionals are becoming uneasy about the encroachment of corporate or state control over their activities.

Universities have played an important part in professionalising occupations, but underlying the role of the universities in this process is a real need in the professions for the advancement of theoretical knowledge. The academic concern for the theoretical and universal is matched by professional concern for the practical and the particular, a distinction expressed in the division of labour between academic and practical branches of a profession. A proper balance between these two aspects is essential to the existence of the profession and to the services it performs.

Taking an historical perspective, Professor Finley argued that the professions as Mrs Floud described them are essentially a contemporary phenomenon in that they have emerged during the past 100 years. What may be called professions have developed in very different ways in various places and periods. Their appearance may be related to changes in social structure and the nature of social mobility, especially in the presence or absence of *estates*, of *bureaucracy* and of capitalist society.

The major changes in each of these features of society which occured during the nineteenth century have been responsible for the emergence of the professions as we now know them. They belong in a capitalist world: there were none in the Islamic world until the division of Western capital, whereupon professions and professional associations flourished.

The definition of a profession may be somewhat tautological, but it does appear to have undergone a semantic change from the simple public avowal of an occupation to the connotations of social prestige which appear in the nineteenth century. Status in this sense of "esteem" is very different from the political, juridically defined status of earlier *estate* societies. There, the highest ranks were authorized to rule, to undertake religious and military offices, and to administer law as laymen (whether they were squires or kings) rather than as professionals.

State expansion brings a need for outsiders to advise on the administration of law, especially with regard to property and the pleading of cases. The classical schools of rhetoric fostered the practice of law and became an important avenue of social mobility. With the great expansion of bureaucracy in the nineteenth century the lawschools developed in America (where the first Bar Association code of ethics appeared as late as 1902) and in Germany.

Unlike law, the practice of medicine has never been a road to power; in classical Rome it was an occupation for slaves. The profession of arms is something of an interloper, being the only profession which has not (since the fourteenth century) been associated with the universities. It has, however, been most resistant to outside intrusion and has recruited mainly from the ruling elite.

As a profession, divinity is restricted to monotheism, shows a particular concern for vocation and sanctity, and is much concerned to control its own ranks. It has been involved in a perpetual—and not always successful—struggle against heretics. It is notable that in the community context the pastor and the teacher were both admitted to the company of the ruling estate, but this is decidedly not the case in modern industrial society. Patronage, it should be noted, does not in itself make a professional, it can bring power and prestige to anyone.

What we may now call the professions may thus be seen in terms of different social functions at different periods in history.

Discussing the problem of definitions, Mrs Floud instanced that theoretical, esoteric knowledge practised confidentially was of the essence. A set of distinctions between crafts, semi-professions and professions could certainly be a matter of degree; journalism, for example, could take on some professional attributes. She resisted the notion that academic occupations were not professional, remarking that university teachers not only developed esoteric knowledge for the professions, but also had a fiduciary relationship with the clients they taught.

If seeking after truth was an attitude essential to higher learning, it was also indispensable to lay professional status and ethics. There were indeed moral and practical reasons why professionals should be educated in universities. Professor Finley felt that while a doctor or lawyer has esoteric knowledge about medicine or the law, a university teacher could hardly be said to have esoteric knowledge about teaching.

On the question of obscurantism or "magic" in professional knowledge, Mrs Floud remarked that these pathologies could not deny the real services provided by professions, or depreciate the strains involved in providing them. In law and medicine particularly, the young were concerned to "demystify" and even "depossession-alise"; they might find a charter in Gramsci's distinction between "traditional" and "organic" professions, the latter being required to serve the needs of the rising proletariat.

Various members of the colloquium felt that this discontent could be attributed to crises in capitalist society, and to the subservience of the professional to the large bureaucratic structures in which he was now obliged to work. Such developments not only set professionals against "the system", but against one another.

Professor Finley drew attention to the activities of the professions and the nature of property in capitalist society, remarking on the very different circumstances in socialist countries. He doubted very much that the professions would disappear; they would probably become more enclosed and self-regulating. Mrs Floud returned to the distinction between professionals and *experts*, saying that she did not believe it was the business of the universities to produce the latter.

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The law

The 'basi

In the second session, the colloquium turned to a specific consideration of the legal profession. The two main contributors were a professor of comparative law and a practising barrister, and at their suggestion the college invited a biochemist, Professor Ryman, the Mistress of Girton College, to serve as an impartial moderator of the discussion.

Professor Ryman felt that a debate about the study and practice of law would inevitably evoke Mrs Floud's remarks about the need for a balance of theory and practice in professional life. The medieval universities dealt only with canon and Roman law, and it was only in the eighteenth century that they began the study of national law.

Common law had been studied at the Inns of Court in medieval times, but by the sixteenth century it had fallen into decline. Today, legal education was apparently complex, with many alternative ways of qualifying. With the relative autonomy of the profession in matters of education, what role was there for the universities?

J. A. Jolowicz said the suggestion that there is a mutually-reinforcing conspiracy between universities and the professions is belied by the case of the lawyers. There is still hostility among practising lawyers to the academic study of law, and a university degree has never been a requirement for practice.

Until recently, recruits to the Bar inevitably came from better off families who could also afford a university education, since such prospective barristers never read law. Until the post-war period there were few graduate solicitors, but there again, the subjects they studied tended to have little bearing on practical training. There is now a need for a profession which demands very much more from the universities.

By the eighteenth century the old Law Schools had atrophied, and lawyers were trained by private study and apprenticeship. Although an 1846 Select Committee recommended the development of professional and academic training, the result has, in fact, been the separation of growth of law faculties and professional training and examination, although it is the practice to grant some exemption to graduates from professional exams.

In 1971 the report of the Ormrod Committee on legal education recommended that a law degree should be recognized as a first "academic stage", to be followed by a professional "vocational stage" in the education of lawyers. A relatively powerless permanent advisory committee was set up, but it has so far accomplished little. The professional organizations have been reluctant to relinquish control of non-practical education to the universities, except in six elementary subjects. Nevertheless, there are now law degree courses at 28 universities.

There are strong pressures from both sides against universities becoming legal practice, but serious academic concern about the practice and administration of law is gradually lacking. There is too much unthinking acceptance of basic lasting concepts, techniques and values, and has been said that academic training teaches how the law operates, while practical training teaches how to operate the law.

The lack of academic attention to matters of legal reform has left the way open for the interventionist lawmen, but reform is a matter which requires specifically legal understanding and analysis.

Do lawyers have this capability? Insufficient attention is still paid to the basic tools and techniques practices of the legal process. The study of these things has been regarded as not the business of academics, who should continue to concern themselves with history, jurisprudence and the teaching of the six elementary subjects. A real education in the "theoretical mechanics" of the profession is being ignored, to the detriment of the profession itself. Legal education should continue to control its own entry and professional qualifications, but they should not be sufficient, and non-graduates, with the initiative to gain legal qualifications should be congratulated, not discouraged.

Academic lawyers enjoy the advantages of superior intellectual abilities, freedom from the labour of sifting and coordinating the facts of cases, and the opportunity to pursue matters of detail. They publish findings on trends and developments and their views on how the law should progress. As such they are very helpful to practising lawyers who, in their turn, provide them with the raw material for academic study.

As well as considering how the practical training and theoretical education of a lawyer should be divided, the Colloquium discussed the utility of "theory" to a practising lawyer, where responsibility for developing legal codes and systems rested, and what kinds of social interest the legal profession as a whole represented.

Professor Jolowicz felt that an examination of the underlying principles of law was a matter for academics at large, not only in the legal faculties. He was happy to accept the intellectual responsibilities and capabilities assigned to him by Mr French, and drew attention to the academic's role in producing textbooks and systematizing legal precedent, as well as questioning more basic assumptions which the practising lawyer might take for granted.

Colloquium members remarked on Mr French's portrayal of academic lawyers as "gifted assistants" to the profession, and asked whether practising lawyers themselves were at all interested in examining theoretical issues and using them to promote change. For Mr French, changes in the rules and administration of the law—say to make it more "caring"—were essentially a responsibility for Parliament, perhaps advised by representation from the profession; such representations tended, however, to be very expensive in terms of time and energy.

Asked whether a legal profession which developed by Act of Parliament left any room for academic initiative, Professor Jolowicz confessed that he often felt ineffectual. It was the task of the academic lawyer to observe and remark on trends and principles; while major patterns were set by judges, the longer term evolution of law could benefit only from academic scrutiny of basic assumptions and practices.

A colloquium member felt suspicious of the portrayal of the lawyer as essentially a technician, and wanted to know the extent to which the profession represented and perpetuated the interests of a ruling class. Mr French felt that lawyers represented that class which was university educated. Perhaps the de-classing of lawyers with working-class origins was regrettable, but the arguments for an open and competitive legal profession remained. An inquiry into the social origins of lawyers seemed spurious; the Bar sought to assure that the administration of justice was equitable.

Another speaker asked whether entry to the profession was really as competitive as Mr French had suggested; was access to a seat in chambers not in fact very restrictive? Mr French acknowledged that this was a real problem, but argued that a shortage of places promoted the survival of the fittest. Physical space outside the Inns of Court was very cramped.

In response to a series of questions, both speakers agreed that the political influence of lawyers, in the universities and in practice, was slight. Only the lawyer-MPs could have any direct influence on legislation. On the suggestion that judges were less bound by Acts of Parliament than barristers, Mr French agreed that in construing legislation judges set vital precedents. Professor Jolowicz commented that while academic lawyers very often became judges in the United States, they rarely did so in Britain.

Asked if any branch of the legal profession was specifically concerned to monitor the social consequences of legislation, such as the Rent Act or the 1969 Children's Act, Professor Jolowicz regretted that there was no organized body charged with this responsibility; Mr French supposed that, to a limited extent, it was the task of the judges to make failings evident.

One member found the present confrontation between academic and practising lawyers peculiarly British, but no less real. Professor Jolowicz had remarked on the academic's fear of intrusion into practical matters and had complained about the practical ineffectiveness of academic counsel. He had also defended the profession's right to control its own entry qualifications, yet he was plainly unhappy about this.

Recognizing this ambivalence, Professor Jolowicz remarked that one virtue of the present system was that the universities had developed a great variety of syllabuses and tha: this should be recognized as a potential source of strength within the profession. Another speaker felt that Mr French had been equivocal about the virtues of a university education; could the university not contribute a variety of intellectual talents which could assist the lawyer in his practical tasks?

Mr French agreed, with the proviso that this did not necessarily imply a degree in law. A third speaker wondered why we might have confidence in a brilliant lawyer with a poor degree, while the same could hardly be said of a doctor.

Medicine

A need to

Tracing the history of the relationship between theory and practice in medicine, Mr W. S. Lewin traced the origins of the profession to the medical school of Cos around 400 BC. Under Hippocrates, superstition was replaced by a critical, observational approach and the development of high moral ideals. With Galen (about 200 A.D.) the art and the science particularly physiology—of medicine were established, but for about a thousand years thereafter there was little further change.

The thirteenth century saw the rise of the medical colleges in Europe, which were mainly concerned with controlling standards in medical practice. The profession was still closely related to the Church, and Pope Innocent III's declaration in 1215 that the shedding of blood was incompatible with the divine mission led to a living-off of the surgeons from the physicians, and their establishment as a craft (hence the Barber-Surgeons' Company) in the medieval period. With the Renaissance and the rise of science, the universities fostered a separation of medicine from the Church.

On the Continent, the universities prevailed over the medical colleges and succeeded in suppressing them by the end of the eighteenth century, but in England this confrontation did not arise. The universities devoted themselves to basic education and research, while the colleges concerned themselves with licensing doctors and maintaining standards of practice.

Today, a university degree is now the prime qualification, but practical, pre-registration training in a hospital is now a legal requirement. This division of labour has freed the universities from having to teach everything, and has encouraged a flexible, innovative approach to basic education while giving the colleges a bigger role in postgraduate training.

The General Medical Council has been an important third force, seeking to safeguard public interest and maintaining professional discipline. It has helped to minimize friction between the colleges and the universities.

Medicine must acquire its knowledge, it must construct its best hypotheses; its scientific concerns relate it in a natural way to the activities of the universities, but as an *art*, the observational skills of a doctor must be developed in practice. Moreover, major discoveries have emanated from general practice, and the history of medicine has depended on a constant inflow of ideas from non-medical faculties in the universities. The art and science of medicine are complementary; the good doctor must be trained to observe and to reason, and the practising medic must know how and when to refer to his scientific colleagues.

From the perspective of a scientist, Professor C. N. Hales agreed that medicine provides a unique example of the physical and intellectual continuity of science and practice. The ideal medical school would integrate fully basic sciences subjects and practical training. In medicine, health care is the common concern of a range of specialization and qualification—a division of labour on which the university is well-placed to advise.

An integrated profession must ensure that scientist and practitioner can collaborate to improve both teaching and clinical practice: there can be a rapid feedback into curricula and into the practical applications of scientific research. The recruitment of medical students can also be kept under review, although this does not in itself remove dilemmas such as whether entry should be open or restricted.

An integrated profession also allows the practical efficacy of training to be monitored. This is increasingly a matter of concern, as there is an apparent gap between the kind of student selected and the kind of doctor produced. In spite of an insistence on high entry qualifications, students now lack a sense of involvement with the people; there is a detachment, a coldness about their relationships with patients which was not apparent before.

Various views were expressed on the issue of whether a social class barrier separated the doctor from the bulk of his patients. It was pointed out that this was an issue for professionals generally, not simply doctors, but Mr Lewin insisted that class was an Aunt Sally. Although it was true that until the Second World War nearly all doctors came from moneyed families, recruitment was now essentially on merit. Young doctors showed a keen sense of social responsibility, evidenced by a desire to enter general practice. Dr Backus's argument was decidedly Victorian, and largely irrelevant to contemporary medicine.

The colloquium also discussed the relationship between science and medical practice, and what might constitute a proper education for doctors. Asked in what sense medicine was a science and whether the professor or the professional should be more concerned with the scientific nature of medicine, Professor Hales felt that there were probably no specifically medical laws. Perhaps the professor was more preoccupied with the specific, and the practitioner with the general.

Reminded of Mr French's suggestion that lawyers of higher intellect gravitated to the academic branch of the profession, Mr Lewin restated the idea that a similar tendency might distinguish the general practitioner from the medical scientist. The further education of doctors was very important, and was carried out in organized training schemes such as the postgraduate medical centres. Personal initiative was no less important. A medical training could be very protracted, including Royal College degrees. General practitioners would shortly require two years of vocational training after qualifying and before entering full practice.

Asked what medicine could, and did, absorb from other disciplines in the university context for example from the social sciences, Mr Lewin felt that the academic community provided a vital intellectual context for medical training, but that this was not enough in itself. Much more had to be acquired in practice. The Chairman, Dr Chester White, remarked that the young doctor could learn a great deal about problems of racial difference and racial tension in an urban hospital—both in the wards and in the staff common room.

In a final comment, colloquium member returned to Mr Lewin's portrayal of medicine as an art as well as a science. Although the academic study of medicine was important in the pre-clinical training of doctors, other qualities were vital to the training of a good medical practitioner. Less developed countries had shown a preference for a second cadre of medics, as had the socialist countries: one level was more specialized and scientific, the other practised medicine as an art.

In the capitalist world medicine had become increasingly mechanized and dehumanized, and this had diminished the social tasks and eroded the social responsibilities of the practising physician. There seemed to be a need to rehabilitate the art of medicine.

Leading discussions in the first three sessions of the Darwin Colloquium were:

Jean Floud, principal of Newnham College, Cambridge; formerly fellow of Nuffield College, Oxford, and former member of the UGC and the SSRC.

M. I. Finley, professor of ancient history, and Master of Darwin College, Cambridge.

B. E. Ryman, professor of biochemistry at Charing Cross Hospital Medical School, and Mistress of Girton College, Cambridge.

J. A. Jolowicz, professor of comparative law, and fellow of Trinity College, Cambridge, former member of the Advisory Committee on Legal Education.

Christopher French, Queen's Counsel, Bencher of the Inner Temple.

W. S. Lewin, consultant neurosurgeon at Addenbrooke's Hospital and fellow of Darwin College, Cambridge; former chairman of the British Medical Association.

C. N. Hales, professor of clinical biochemistry and fellow of Downing College, Cambridge.

Richard Backus, M.D., member of Darwin College currently engaged in research on educational influences on medical students.

Chester White, pathologist at Peterborough District Hospital, and fellow of Darwin College, Cambridge.

NEXT WEEK: Science, Technology and Architecture.

mechanics' are being ignored



rehabilitate the art of medicine



TIMES PAST — THE TIMES

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This year, next year?

Almost six months have passed since the date on which university teachers should have received their annual salary increases but there is still apparently little prospect of an early settlement between the Association of University Teachers and the Government. The AUT may have accepted that the annual increase to be paid from last October must be within the Government's 10 per cent guidelines. But the association remains determined to extract firm—"copper-bottomed" is still the favourite adjective—promises about the phasing of the rectification of their anomaly. Over recent weeks the AUT negotiators have become more and more frustrated by what they regard as the Government's prevarication on this second point. This growing frustration was the main motive behind the executive's decision to summon the emergency council meeting in London tomorrow.

This council faces a clear choice. Either the delegates can attempt to put some teeth into the programme of sanctions agreed at the Heriot-Watt council just before Christmas (most prominent among them was the threat to refuse to mark examinations); or they can call it a day by accepting the 9.8 per cent increases now being offered and trusting that Mrs Williams—or her successor at the Department of Education and Science—will keep her promise to rectify their salary anomaly as soon as possible.

Their hearts may incline them to choose the first course but their heads should dictate that they choose the second. No doubt many hard things will be said about the Government's parsimonious intransigence tomorrow. Time has done nothing to assuage the bitter sense of grievance felt by the overwhelming majority of university teachers about the way in which they were cheated, not once but twice, of legitimate increases in 1975 and 1976.

In fact university teachers have little to gain and a great deal to lose by embarking at this late stage on a hastily prepared campaign of militant action. The list of pros is short and its content uncertain. It is true that the AUT's campaign has succeeded in persuading both politicians and the public that university teachers suffered disproportionately when the present incomes policy was first introduced. But this mild sympathy is certainly overruled by their broad support for the Government's policy on wages which was demonstrated most effectively at the time of the firemen's strike.

Nor can university teachers make up for this lack of vigorous public support with industrial muscle. Some delegates tomorrow may argue that the concerted hostility of university teachers could pose an electoral threat to the Labour Party in marginal university seats. But this exaggerates the trade union solidarity of university teachers and imputes to them a petty mindedness that few of them possess.

On the other side the drawbacks of militant action are many and formidable. First, university teachers have had to wait for the money they should have been paid in October. So its value has been eroded by the inflation of half a year. Secondly, disruption in universities, whatever the justice of its cause, might undermine their public reputation which is probably higher than at any time since the mid 1960s. If this happened, the long-term impact on university teachers' salaries would destroy any short-term gain. Thirdly, the AUT should remember 1975. Although the decision to go to arbitration then was probably wise, it was one of the factors that contributed to the creation of the anomaly in the first place. With Mr Healey and the Prime Minister already talking about phase four and the prospect of a General Election looming with its paralysing effect on Government, the AUT should be careful not to get caught out again.

In any case what are still at issue are semantic shadows. Mrs Williams has already given as firm a promise as any politician can that the anomaly will be rectified. No doubt a clear statement will also be made when the university grant up to 1981 is announced later this month that it does not include the extra sum necessary to rectify the anomaly. This is as much as can be expected. Anything more would only be "a piece of paper". The AUT council tomorrow, in spite of its quite legitimate feeling of anger and frustration, should accept the 10 per cent offer and keep its powder—and its anomaly—dry for the real struggle next October.

Lessons from Chicago

There is nothing in British higher education quite like the annual conference of the American Association for Higher Education which opens in Chicago on Sunday—more than a hundred speakers (including this year Mrs Shirley Williams and Dr Richard Hoggart) thousands of delegates, a "fringe" of women's caucus meetings, ideas marketplaces, and exhibitions that surpasses even the embarassing choice of ideological exotica on offer at conferences of the National Union of Students here in Britain, all packed into a vast convention hotel.

The British observer is torn between two reactions to what must seem to him a bizarre event. The first is to regard it as just another example of the profound cultural differences that separate the United States and Britain in spite of their common (well, almost common) language and their similar political and legal traditions. At American political conventions delegates let off balloons to the accompaniment of jazz bands; at British party conferences they raise points of order and relax at Fabian tea meetings or Young Conservative Balls.

The flaw here is that it is not that British higher education stages no events like the AAHE conference but that it stages no events at all. A second and more reflective reaction is that British bewilderment in the face of such an event is a symptom of British backwardness in thinking creatively and positively about the future of higher education. After all, the theme of the Chicago conference—"Lives in Transition: What Role for Higher Education"—and many of the detailed contributions on adult learning, the decline in opportunities for academics, the interference of Government and so on are all relevant to the present condition of British higher education as well.

However, two important differences between America and Britain are emphasized by the scale and the style of the AAHE conference. First and more obvious is that American higher education is much more self-conscious and as a result the study of higher education within universities and colleges has gained a respectability that it has still to win in Britain.

Second is the toleration in America of a diversity of styles and forms of higher education that is still not acceptable in Britain, although the demographic decline of the 1990s will no doubt help to concentrate minds wonderfully if the supply of traditional students becomes uncertain. This, of course, is the important point. British higher education too will have to develop the same toleration of diversity that is so symbolically displayed by the diversity of the AAHE conference next week—and to do so it too will have to become much more self-conscious about its role. We too need our equivalent of the AAHE—a more solemn and sedate organization perhaps but we still need it.

LETTERS TO THE EDITOR

Academics in Ulster

Sir,—As another Englishman, also a Roman Catholic, who joined the staff of The Queen's University of Belfast a few weeks before Bruce Cooper went to the Ulster College, I was interested in his reflections. (Ulster: isn't seven years enough? *THES* January 20) May I focus on one paragraph of his article.

"The academics have still to experience their finest hour. One might reasonably expect the institutions of higher education to make some sort of positive contribution to some of the problems that rack the province, but, the polytechnic included, by and large, they have steadfastly stood apart and aloof, seeing it as their duty to turn out qualified engineers and linguists and accountants. You look in vain for research topics such as 'The incidence of unemployment in the Ballymurphy' but find in rich profusion such studies as 'The life cycle of duckweed' or 'Kitchen accounts in mediaeval nunneries'."

His example is unfortunate. I was personally responsible for two surveys of unemployment in Ballymurphy, in 1971 and 1973. Dr F. Boal and his associates collected data on 48 social indicators (including six unemployment indicators) for 97 zones (including Ballymurphy).

However, this faux pas should not be allowed to obscure the truth of his general comment. Earlier in his article he refers to "the moderates and the able, the industrialists and professional classes (who) have betrayed their country and preferred the pleasures of sailing . . . or playing golf . . .". Elsewhere, I have argued that "the intellectual elites (in Ireland) have had an important role in creating the present conflict in Northern Ireland. With a few exceptions . . . (they) conformed prior to the 1960s to the set of rule norms which proscribed analysis and criticism of the sacred in Ireland." This opting out of the intellectual's roles of analyst and critic, which is equally prevalent in the Irish Republic, has to be seen as *trahison des clercs*.

Two reasons are advanced for the irrelevance of the academics in Northern Ireland. At the individual level it is said that most academics born and reared in Northern Ireland are as much prisoners of their culture and society as any other Ulstermen, and that it is unreasonable to expect them to do other than conform to the expectations of their fellow Ulstermen. Yet it has to be said that a few of them do have the vision and the courage to defy social pressures and act as analysts and critics of distinction.

At the institutional level there is a general acceptance of irrelevance because it is politically safe. There are frequent references to the dreadful things that happen to universities that allow themselves to become "involved in politics", coupled with reminders that individual academics, always free to apply for research grants, and to focus their teaching, research and writing in whatever direction they think fit.

In a situation where very few academics are either sufficiently inner-directed or feel free and secure enough, to perform the roles of analyst and critic of society and culture north and south of the border, the strain on those few is tremendous.

The current financial crisis in the universities has added greatly to the strain on *all* academics. But the White hall-inspired discrimination against the social sciences (in favour of applied natural sciences) has to be seen as another major factor.

The point is that research into the life cycle of duckweed is applied natural science, and is therefore a good thing, while research into the kitchen accounts in medieval nunneries requires not money but skill, time, patience, and access to the Public Record Office.

Yours faithfully,
A. F. C. W. SPENCER,
Senior lecturer in social studies,
The Queen's University of Belfast.

Grants for drama

Sir, In protesting against the GLC Arts Committee's decision to cut off support grants from the Royal Court and Open Space Theatres, I have a double interest: first, as progenitor of the Open University's course A307: Drama (which deals with modern and contemporary drama seen in its historical perspective), and secondly as a member of the board of directors of the Open Space (a capacity which carries responsibility but no financial obligation).

In the teaching material of A307 we at several points mention the subsidized theatres, the work they do and their dependence on subsidy. In the very first section of the course, "An Interim Perspective", we specifically mention both the Royal Court and the Open Space, among others, as theatres whose work is of special value to students of drama. It may not be widely known that the Open Space has helped us with our summer school programmes for six years—for five with Shakespeare studies, and last year with a performance of a contemporary play (E. A. Whitehead's *Alecco*).

Naturally I regard with personal horror and de a academic disappointment any development, such as the present one, which threatens creative theatre work and study of the drama. In a largely philistine and materialistic society such as ours, artistic growths are fragile, and the best work in many fields is only possible if responsible-minded and disinterested support bodies such as the Arts Council, and those local authorities which are prepared, without strings, to operate regularly and fairly.

The manner and timing of the GLC Arts Committee's action in this case are deplorable; since other, well-deserving, artistic enterprises are to receive increased grants, I can only suspect philistine or partisan malice.

Yours faithfully,
BRIAN STONE,
Reader in literature,
The Open University.

Strife over salaries

Sir,—It is depressing to see the internecine strife over salaries continuing between university and polytechnic staff. I have for long thought that the two sides should combine to negotiate a productivity deal with the employers. Unlike some of the recent dubious productivity agreements, productivity has already risen in many educational institutions.

The student/staff ratio for my department has over the last two years risen from about 8.6:1 to 12.1:1. During the same period, my disposable income has fallen by about 20 per cent. What other group of workers would tolerate a situation of rising productivity and falling income?

Productivity as a criterion for salary increases has, in my opinion, assumed greater significance with the publication of the DES discussion document—*Higher Education into the 1990s*. One of the options suggested for coping with the "hump" is to pack more students in without increasing staffing levels. This will surely be an irresistible temptation for any government; hence, the AUT and NATFHE ought to get the criterion of productivity established before the flood tide comes in.

Yours faithfully,
D. M. REED,
Head of school of sociology,
Kingston Polytechnic.

Preacher astonished

Sir,—I have just read, to my great astonishment, in Don's Diary (*THES*, March 10th) by Professor Ioan Davies the entry for "Sunday" in which he states that he had listened to me in Westminster Chapel.

As I have not preached on a Sunday in Westminster Chapel for just over 10 years my doubts concerning the "scientific" nature of sociology are greatly increased.

Yours faithfully,
D. M. LLOYD-JONES (Rev Dr),
49 Creffield Road,
Ealing,
London.

The conference

Sir,—I was disappointed to find that your report (*THES*, March 3) of the *THES*/AUT conference on "The Universities and Britain's Future" (which I attended on behalf of the Dundee Branch of the AUT) made no reference to the speech by Mr R. A. Jackson, the TUC education officer.

Gordon Oakes, introducing the DES projections for student numbers in higher education, emphasized the need to "broaden the social spectrum" of the student intake, and particularly to provide better opportunities for mature students—including students who do not have qualifications which satisfy universities' normal entrance criteria.

He made no mention of the special problems this new kind of intake would raise for us; and more to the point, apart from the ritual gesture towards education's claim to the "lion's share" of the benefits of North Sea oil, said nothing about how the new intake should and could be financed.

Mr Jackson on the other hand gave a very fair review of the problems we would have to confront, together with an impressive list of reasons why we should make the effort to confront them; and he listed for us the kind of thing that a Government that claimed to want such a widening of opportunities would have to spend its money on.

Briefly: we would need a massive improvement in secondary education, an extension in the number and kind of courses available to the 16 to 18-year-olds, and far more mandatory grants (especially for part-time students). I would myself add to his list the fact that universities also need more funds to set up and develop the new kinds of courses alongside the old—that such a new intake would imply. I very much hope that what Mr Jackson had to say will receive much wider publicity both in the universities and among the public as a whole.

Mr Oakes's speech left me with a strong suspicion that the Government of which he is part is at the moment merely playing with the rhetoric of education ("broader", "wider", "more relevant") without much understanding of what education is about or, frankly, much commitment to it.

He gave no indication that the damaging cuts in all educational sectors were to be reversed. He spoke with unbelievable complacency of the problems in primary and secondary schools being already "sorted out". He held up to us for emulation the response of the teacher training colleges to the Government's call to "take in" (unhappy irony!) more mature students—apparently unaware that as a result of Government cutbacks most of those students will now be unemployed teachers. He could not tell us what we would be training our own new intake for.

When it was pointed out to him that his own speech claimed that Britain was undergoing a necessary transition to a "minimal labour economy", and that this seemed to imply no jobs for our students, he declared that he was speaking in a context of training people to deal with the "problem of leisure". The "work ethic", the unemployed will be glad to hear, is a thing of the past and no longer to be fostered.

The relation-ship between the universities and Britain's future is something that the present Government has not yet got to grips with. The main virtue of February's conference was that it brought into the open how many misunderstandings and conflicting interests exist in the minds of all parties to the debate. It is to be hoped that the matter will not be allowed to rest long in its present confusion, and that Rees-Mogg's speeches will be turned into some practical—and properly financed—form of action.

Yours faithfully,
JENNIFER BIRKETT,
Secretary, Dundee Association of University Teachers.

Letters for publication should arrive by Tuesday morning at the latest. They should be as short as possible, and the editor reserves the right to cut or amend them if necessary.

Higher Education in America

A TIMES HIGHER EDUCATION SUPPLEMENT SPECIAL SURVEY



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'Core mission is to prepare young for adult society'

Lewis B. Mayhew argues that America's colleges should abandon the philosophy that higher education can be an instrument to change society

The structural and financial changes initiated or accelerated after 1968 are likely to persist and become part of the higher educational tradition. At the same time, the radical curricular and instructional changes suggested by the non-traditional movement, the rationale of some new institutions, and the egalitarian reformers are not likely to become deeply imbedded or particularly influential. If this is so, it then becomes necessary to determine why.

A major reason for questioning the long-term significance of the non-traditional movement is that it seems to rest on a conception of higher education as an agent for reforming society. Providing new services for many different groups of people seems to assume a breakdown in other social institutions that have previously been expected to provide service. Thus, higher education is seen as a surrogate for the family, by providing day-care centres; a surrogate for elementary and secondary education, by providing basic education; a surrogate for industry and unions, by providing leisure-time activities; and a surrogate for the entire knowledge industry, by attempting to provide whatever information or knowledge any individual wishes.

Now, colleges have always served a surrogate role to some extent. They have taken custody of a portion of the nation's youth for several years, and they have provided some housing and some entertainment. But the claimed domain of activity during the 1970s is so broad that, if all-out efforts were made to service everyone, resources would be drawn away from traditional collegiate functions of enculturating the young and providing some vocational and professional training.

Collegiate institutions are essentially conservative, as indeed are all educational institutions. They are created by the powerful in a society to preserve that society and not to produce significant social change. The more far-reaching curricular and instructional changes of the 1970s seem destined to be rejected by most college boards, administrators, and faculty members as being at variance with the historic mission of collegiate institutions.

The new private institutions that have come into existence since 1968 are not likely to last very long, for many reasons, including the fact that they for the most part have violated too many principles and traditions—apparently unaware that as a result of Government cutbacks most of those students will now be unemployed teachers. He could not tell us what we would be training our own new intake for.

When it was pointed out to him that his own speech claimed that Britain was undergoing a necessary transition to a "minimal labour economy", and that this seemed to imply no jobs for our students, he declared that he was speaking in a context of training people to deal with the "problem of leisure". The "work ethic", the unemployed will be glad to hear, is a thing of the past and no longer to be fostered.

The relation-ship between the universities and Britain's future is something that the present Government has not yet got to grips with. The main virtue of February's conference was that it brought into the open how many misunderstandings and conflicting interests exist in the minds of all parties to the debate. It is to be hoped that the matter will not be allowed to rest long in its present confusion, and that Rees-Mogg's speeches will be turned into some practical—and properly financed—form of action.

Yours faithfully,
JENNIFER BIRKETT,
Secretary, Dundee Association of University Teachers.

Letters for publication should arrive by Tuesday morning at the latest. They should be as short as possible, and the editor reserves the right to cut or amend them if necessary.

Third, many of the new private institutions assume the continuation of a somewhat questionable financial base. They assume that tuition will provide principal income, and they seek to keep tuitions within the reach of potential students, either through the private philanthropy of trusts and federal student aid programmes or through reducing time requirements so that full tuition would be substantially less than if students were required to spend additional amounts of time gaining a degree. As inflation continues, this trade-off of time against dollars could very well produce absurdities.

Educational institutions and educational practices require nurture and support from powerful elements in the society. Landgrant colleges eventually obtained the support from the agricultural interests in the society and grew increasingly strong as agriculture emerged as a mainstay of an expanding economy. The Flexner report (1910) on medical education received immediate support throughout the country from many different segments of society that had also come to realize the inadequate quality of medical practice and medical education. The junior college movement was broadly supported because it was democratic in tone but still preserved prestige. The more radical curricular, instructional and institutional changes in the 1970s do not seem to possess a sufficiently powerful set of constituencies to maintain them.

A few reforming academics, some minority and disadvantaged groups, and officials in a few foundations comprise the base. At the same time these elements have encountered apathy, resistance, or outright opposition on the part of strong, existing institutions, accreditation agencies, the major professions, and political leaders who have yet to be convinced of the economic values.

What appears during the late 1970s is an American system of higher education in which a substantial body of literature emerged urging major new educational practices. A few professional societies, such as the American Association for Higher Education, lent their weight to publicizing the new. Yet, overall, the number of students actually affected remains relatively small. A similarly growing body of literature also deals with structural and organizational changes and these, especially in the public sector, are rapidly being put into effect.

However, it is difficult to discover solid evidence that these changes are in any way significantly modifying how students and professors go about their educational tasks and responsibilities. Education, including higher education, is a social institution designed to enculturate people into the society and to acquaint them with the constantly expanding number of things they must know in order to cope with that society.

It operates on the basis of tradition, partly because so little is really known about how people learn and develop and partly because traditional ways of doing things have not proven unsuccessful. People attend college, graduate, assume adult roles, and live out their lives with varying degrees of satisfaction or dissatisfaction. Until persuasive evidence is obtained that clearly superior ways of inducting youth into adulthood can be found, the practice of higher education is likely to proceed as it has in the past.

The federal government has an important stake in higher education, and the significance of that stake should be symbolized by creating a Cabinet-level Secretary of Education who could ensure that the voice of education is heard in the highest council along with the voices of diplomacy, war, commerce and labour. However, such a position should not become a Ministry of Education, in the French sense, with power for direct influence over academic programmes throughout the country. Those academic programmes and practices are best determined by constituencies on a single campus.

In this same connexion, it is probably too late to reverse the tendencies in the several states to create coordinating and controlling agencies above the campus level. However, it is not too late for individual campuses in many different ways to reassert campus responsibility and autonomy and to resist extension of centralizing tendencies from coordinating agencies to statewide systems with statewide boards and administrative structures. Perhaps the best arrangement would be moderately strong coordinating committees or commissions whose activities would be legally constrained by specific expressions of domain of purely campus responsibility.

This system or non-system of higher education continues to serve educational, service and research purposes. However, the core mission of all institutions regardless of type, has been the educational mission of preparing the young for entry into the adult society. This primary mission should be continued and if individual institutions have departed substantially from it they should be encouraged to return to an emphasis on the core responsibility. This does not mean that some programmes for adults should not be offered, but they should not be offered if they jeopardize the core function or if they are offered by institutions that do not possess the intellectual traditions and resources needed for extending programmes to many different groups of students.

Colleges and universities are at their best when they develop skills and abilities resting on the uses of words, numbers, and abstract concepts. Institutions organized to emphasize other things, such as the joys of gardening, the cultivation of spiritual serenity, or therapeutic self-expression, are not institutions of higher education, even though they may be quite laudable institutions that improve the human condition.

Relatedly, in accomplishing principal purposes, collegiate institutions properly make use of many different techniques, including field work, collection of artifacts, and even remunerated work closely related to academic work. However, the basic techniques should continue to consist of reading and writing, numerical calculations, and practice in developing and using abstract concepts, which are best developed through sustained and intensive interaction between teacher and student and through closely supervised independent effort, so that constant evaluation is done by informed individuals to help students perfect their cognitive skills.

Within the system of higher education in the United States, there should be constant experimentation with methods of instruction, learning, and operations. Most of these experiments should be expected to fail or prove inconclusive, for the practices and processes of higher education change slowly. Out of the welter of experimentation and attempted innovation may come a synthesis of new developments that can change the face of higher education.

Historically, from the medieval universities on to the present (with some notable abberrations from time to time), the transcendent values in colleges and universities have been intellectuality, collegiality, civility and the tranquility necessary to study and ponder the human condition in the abstract. These are sound values and should be preserved at all costs. This means that institutions that wish to substitute experience in the day-to-day conduct of affairs for intellectuality should be viewed as something other than higher education.

Lewis B. Mayhew is professor of education, Stanford University. This extract is from Legacy of the Seventies, *published by Jossey-Bass, 28, Banner St, London and 615, Montgomery St, San Francisco.*

Unless otherwise indicated, the reports in this survey have been written by Clive Cookson, THES North American correspondent, and David Walker. The survey is produced to coincide with the annual conference of the American Association for Higher Education, being held next week in Chicago.

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Student political activism is almost a thing of the past; today's concerns focus, literally, on bread and butter issues

Priority is on consumerism

They held elections at the University of North Carolina at Greensboro recently to ratify a new constitution for the student union. Of 10,000 students eligible to vote, 400 did so—roughly the same number of students who a week later signed a petition organized in support of the enterprising junior who had built a kennel outside one of the dormitories for his German shepherd dog.

Formal student politics in the United States is at low ebb. Greensboro, formerly an all-woman liberal arts college, may not be typical but it is symptomatic of the times. It had its share of sixties' activism, strikes and protests, but now the burnest issue on campus, apart from the perennial issue of sex in the dorms, is the fate of a pet dog.

The contrast of campus quiet with the events and mood of a decade ago is obvious but still striking. Then, a leading sociologist could write about "theorizing within the sound of gunfire". Last year, with obvious symbolism, the authorities started to build a new gymnasium on the green field where Ohio National Guardsmen killed the Kent State students. Sproul Hall at Berkeley is unoccupied; student McGovernites have no place in the Carter Democratic Party.

The booksellers are not yet remaindering Herbert Marcuse's *Reason and Revolution*, it is true, and Bob Dylan can still be heard in student lodgings singing "The times, they are a-changing", but student activism in its sixties' form is dead.

It was, of course, killed by the ending of United States' involvement in Vietnam, the recession in the economy from 1969 onwards, the end of the expansion of higher education itself and mere fashion.

Leaving cultural generalizations aside—and the demise of campus activism has produced some fascinating speculation on the modern student "world view"—two seemingly contrasting points can be made.

One is the extent of attitude change on the part of American students in the past eight or so years, as evidenced by manifest changes in behaviour and by Carnegie surveys. Second, certain aspects of the sixties' student ideology seem to have become permanent; prevalent views of student rights and acceptable behaviour have in some ways changed little even if their public manifestation has.

To take the example of Greensboro, Mr Chip Culler, the student dog owner, was prepared to leave rather than see his pet expelled and his pristine notion of student rights infringed. Yet his action in building a kennel for the animal was based on a very legalistic reading of the students' handbook. With no demonstrations to prove his case, he worked through the channels collecting signatures for his petition and succeeded in persuading the dean of students for residence life of the rightness of his case.

The change in attitudes in recent years is none the less striking. One of those invaluable surveys carried out under the auspices of the Carnegie Council by Professor Martin Trow of Berkeley points out that, politically, the percentage of undergraduates who call themselves left or liberal has fallen since 1969. In the same year a majority of undergraduates claimed their education would be improved if assessment was abolished. By 1975 the proportion endorsing the idea fell to a third. Fewer students now want blacks and other minorities admitted to their college if it means relaxing standards.

As one student at Pennsylvania State University put it: "Activism is the fad of the past; today's fad is looking four jobs. Remember when students would complain about oil companies ripping off everyone? Now kids are saying, 'working for the oil companies, that's where the money is'".

American students retain their sixties' liberality when it comes to sexual mores and drugs. Professor Trow's survey, published last year, showed that attitudes towards women on campus had become even more liberal between 1969 and 1975. The stridency may have gone out of the organized women's movement but on most campuses a fairly strict notion of women's rights is held by both sexes.



The shootings at Kent State: one of the major campus flashpoints of the past decade.

Homosexuality flourishes, too. Last month, for example, the Supreme Court declined to review a lower court ruling in favour of a gay lib group at the University of Missouri—a decision which will effectively force the university to recognize the group despite fears that its existence on campus will "promote violation of the state's sodomy laws".

Suits against universities abound—from the celebrated Bakke case down to minor actions to secure academic information, reverse grades and even—Mr Culler of Greensboro was prepared to go to law—to keep pets on campus. Part of the reason is the prevalence of the view that students are "consumers of education".

According to Mr Frank Jackalone, executive director of the National Students Lobby, the student as consumer is now the watchword of organized students at all levels in their "sophisticated activism" of court suits and political lobbying. "There is just as much activism", he says, "it's just not as visible."

Mr Jackalone represents in the National Student Lobby about 1.5m students affiliated through campus and state organizations on a per capita basis.

The National Student Association, still trying to live down sixties' internecine warfare and the startling revelation in 1967 that it had surreptitiously been funded by the CIA, claims a slightly higher figure.

The two bodies are considering a merger but even their combined strength leaves nearly 8m students in American post-secondary education without national representation. The NSA and NSL are nowadays more concerned with lobbying than political leadership.

On many campuses, however, representation in Washington on matters far less than student lobbying work in the state capitals—where the legislatures decide appropriations for the local colleges.



Bob Dylan: waning star

It organized politics, affiliation to the national political parties and demonstrations are out, the hard business of facturing, research and lobbying goes on. Mr Jackalone interestingly looks to the British National Union of Students as a model here. Indeed, a recent meeting of 60 student campus leaders with Dr Ernest Boyer, United States Commissioner of Education, is escapably recalled the days when British student leaders threw themselves forward for Parliamentary seats) too). Sherry with the Secretary for Education in Whitehall.

The theme of December's meeting with Dr Boyer was finance, and it was organized by the National Student Educational Fund, a non-profit body that is dedicated to providing students with better information, mainly about the various grants and loans available from the federal government.

Miss Brenda Catterton, the fund's development officer, emphasizes the ignorance of many students—especially mature students who are going to college in ever-increasing numbers, about aid available.

Students do, of course, occupy positions within university government, but it is true that the issue of the next few years is going to be the control of the costs of tuition, it is difficult to see students playing any clear-cut role if the universities squared off against state and local or the federal government.

Some observers see in the tenativeness with which students approach public activities not self absorption, but, in the words of Professor Martin Duberman of the City University of New York, "pre found wariness."

He recently wrote: "They are not comfortable—as students in the fifties were—with personal advancement alone. Nor can they devote themselves—as could the activists of the sixties and the more dedicated of today's young socialists and feminists—to public service alone.

"Theirs is a divided consciousness, the Emersonian double vision that prevents single-minded commitment, whether to personal or public goals, which fears to participate and fears not to. A canny awareness that corruption is endemic and available solutions shopworn—but in tandem with a guilt recognition that the subtlest form of corruption may be resignation."

Whether nineteenth century philosophers or the activism of the hot and heady days of the 1960s are the best comparison or not, American student life in the late seventies is puzzling. Or perhaps we have to get used once more to seeing students less as a vanguard or special caste, more as representatives of wider society. Like the majority of Americans, they are cultivating their own gardens, letting the world out there take care of itself.

Politicians are increasingly demanding a say in the running of colleges. Ian Anderson reports on the uneasy relationship between California's huge higher education system and the State's legislators

Union of the State and academe seen very much as mixed blessing

STANFORD

A sketch on the cover of the latest issue of a glossy magazine at Stanford University Medical Centre takes a swing at the federal government's growing incursion into university affairs and governance.

Uncle Sam sits gleefully at his red tape machine punching out reams of the stuff of which bureaucracies are made. An accompanying caption asks pointedly: "Will red tape wreck the universities?"

The intricacies of relations with government are never far from the minds of university administrators these days. They really have little choice. To quote from the Stanford magazine article: "The (federal) government now stands, in its various guises, as patron, customer, monitor, regulator, supplicant, seducer, director and full partner in the operations of the modern university medical centre."

In California, the concern is not only at federal level. In recent years, the state legislature and the state executive have become more and more involved in the affairs of higher education.

On the whole, the universities have adopted a curiously ambivalent approach. Perhaps rather shocked at first, they do not particularly oppose what is happening—their main concern is that the measures politicians introduce for the perceived public good do not unnecessarily burden the universities or cut away at their independence. It is this fine balance between accountability and autonomy which is at the heart of the matter.

The social goals and aspirations of much recent federal regulation are not in question, but the cost of compliance and the unforeseen and unintended consequences of its implementation are increasingly worrying university officials.

The proposal to end mandatory retirement, for example, may be fine and timely social legislation but it will have a tremendous impact on tenure and promotion within the academic hierarchy.

In California, a new worry is what happens within universities when there is disagreement on what should be done to accommodate government proposals.

Stanford can provide a perfect example involving recombinant DNA research, a scientific technique which was developed at Stanford and the University of California, and where recent promising advances in its application have been made.

The position of the Stanford administration is that the current federal guidelines are temporary and that some sort of permanent regulation is inevitable. The best strategy therefore is to jump into the quagmire of the legislative process and work for the least burdensome legislation; in this case, that means accepting federal pre-emption so that state and local authorities do not get into the DNA regulatory business as well.

Most of the scientists now maintain that the benefits of recombinant DNA research outweigh any possible risks. Federal legislation, in which there is no guarantee that it will come out the way universities want, would be a permanent millstone: far better, they say, to stay with the guidelines of the National Institutes of Health and the integrity of the scientific community.

The example raises some fundamental questions for university governance. Who should speak for the university? The administrators who see their role as looking after the long-term interest of the university as a whole? Or the scientists who are doing the work? At the moment there is a compromise of



Uncle Sam through Stanford's eyes.

sorts: the administration will not act until it is certain that legislation is on the way.

At the state level the story has a different twist. Again the motives of the legislators are regarded as largely benevolent, but this time the university, especially the nine-campus University of California, is the direct target rather than the latent victim or beneficiary of government actions.

The legislators claim a "shared responsibility" with the university to see that the $800m annual allocation from the public purse is well spent. University officials are frightened that in the resulting give and take with the legislature and the executive, the university could lose control over internal academic policy.

Last year a series of measures involving research, teaching and undergraduate fees were tacked on to various parts of the 1977-78 UC budget. If passed, the university would not have received various budget monies unless it abided by this added "control language". An intense lobbying effort in the state capital by senior UC officials killed the language in the joint conference stage between the two houses.

However, the legislators by no means regard this as a defeat. Their aim is to open up the decision-making processes within the university and to obtain a greater public airing of university affairs. This, they say, was achieved in the various budget hearings.

It is possible that the limits of the state legislature's involvement in UC affairs could ultimately be decided in the courts. A step has already been taken in this direction. The Fair Political Practices Commission, a state agency, has ruled that UC Regents, like a number of senior public officials, must declare their personal finances in case of conflict of interest with Regents' business. The Regents, claiming invasion of privacy, intend to sue the commission.

The California executive, under Governor Jerry Brown, has also been active in higher education most recently to the chagrin of the private universities. The governor vetoed an increase in the state scholarship stipend arguing that the extra money would allow more students to pay fees at private schools which did not seem right when there were places to fill in the public system.

The executive's department of finance is also investigating the state's 104 community colleges to determine, among other things, the value to the state of courses at the colleges. Familiar cries about the erosion of autonomy are being made by college administrators.

Governor Brown has tried to influence the UC system by appointing Regents from a greater variety of ethnic and social backgrounds. He has not had enough vacancies to fill to make any marked difference yet, although a recent academic senate plan on student admissions was seriously challenged by the Regents instead of, as in the past, being rubber-stamped.

There is at least one healthy sign that the strained relations between government and the University of California are abating and that a mutual understanding is being established. All the protagonists—the UC administrators, UC researchers, the governor and the legislature—are involved in the California Policy Seminar, a highly significant and innovative method of matching university research interests with pressing state problems (*THES*, July 29, 1977).

Last month four projects, covering environmental carcinogens, energy conservation, social and ecological aspects of agricultural research and economic forecasting, were each granted $50,000 funding over a two-year period.

The call has now gone out for a second list of research projects from faculty—110 were received the first time—so the winnowing by the seminar can begin and more projects can be funded later this year.

Language learning fall 'levelling out'

The past decade's disturbing decline in the number of students studying foreign languages may have bottomed out, according to the latest figures from the Modern Languages Association.

Foreign language enrolments at four-year colleges and universities this year are only 0.5 per cent down on 1974/75, when the association's last survey was done. Between 1968/69 and 1974/75 language enrolments fell 16 per cent, while total student numbers rose 22 per cent.

The traditionally dominant duo of French and German are still declining—German by 11 per cent and French by 1.5 per cent. Russian, too, is on the slide—down 7.5 per cent.

They have, however, been balanced by the increasing popularity of Spanish, Arabic and Japanese, all up about 5 per cent.

The two classical languages make an interesting contrast. Latin enrolments are well down but Ancient Greek is up a little—perhaps because classics departments are putting on new courses on Greek civilization.

Some language departments, of course, have been booming in spite of the general decline. A frequently quoted example is Dartmouth College, where the proportion of language majors has doubled in 10 years.

About half of America's colleges require some foreign language study by undergraduates, but 10 years ago 89 per cent had a language requirement.

The decline of modern languages in higher education is closely related to its demise in secondary schools. Language study in public high schools fell 13 per cent from 1969 to 1975, despite a total enrolment growth of 16 per cent. One result is that college language courses have to start at more elementary levels today.

In fact, there has been a classic vicious circle at work, with schools interpreting universities' decreasing language requirements as a reason for dropping their own requirements. However, the latest figures indicate that increasing public and political concern may at last have broken the circle.



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Carnegie looks at bias and the private sector

In its two most recent reports the Carnegie Council for Policy Studies in Higher Education, under the chairmanship of Dr Clark Kerr, has tackled two of the most controversial issues in American higher education today—positive discrimination in favour of minority groups to compensate for past discrimination, and the public subsidy of private higher education.

The council's first report, *Selective Admissions in Higher Education*, consists of three parts: a comment on public policy and academic policy by the council; an essay on the pursuit of fairness in admissions by Winton H. Manning, senior vice-president for development and research at the Educational Testing Service; and a report on the status of selective admissions by Warren W. Willingham and Hunter M. Breland.

The council's verdict is that selective admissions to favour disadvantaged groups are a necessary feature of American higher education at present, but should not become a permanent feature. Its commentary states: "We hope that race and other minority status will be much less of a distinguishing feature of American society in the future as we overcome the consequences of past discrimination in education and elsewhere."

"Race or other minority status would, thus, become less germane to achieving diversity in student bodies and to ensuring prospective service to the public. We hope that the current period of transition will not last longer than until the end of the current century—less than one generation."

Mr Manning's conclusion is along similar lines, although it perhaps leans more in the direction of those who favour affirmative action programmes. He concludes that race is a relevant factor in the process of choosing students but rejects the idea of rigid quotas. He believes instead that race should be one factor in a weighting system for admissions.

Mr Willingham and Mr Breland argue that in the face of legal scrutiny higher education should work towards a more systematic and open admissions process "an educational 'due process' that encourages use of all relevant information and subjective judgments that are sound in principle and fair in application."

The second report, *The States and Private Higher Education*, consists entirely of a report by the Carnegie Council although this is supplemented by more than 120 pages of statistical and technical supplements.

In its recommendations the council tries to balance the claims of private and public institutions with in the overriding principle that "in the broad public interest, the private sector of higher education should be preserved and strengthened in ways that will protect the traditional autonomy of private institutions."

It tries to do this in three ways. First, it recommends that need-based tuition grants should continue to be the mainstay of state programmes of student aid. These would be provided for students in both public and private institutions, but would add up to a considerable public subsidy of private colleges.

Second, it says that this basic subsidy channelled through students should be supplemented by more direct forms of aid—such as contracts with private institutions for educational and other services and grants for buildings.

Third, the council believes that there should be no discrimination between private and public institutions. If a public institution is granted exemption from certain taxes, private institutions in the same state should enjoy the same privileges.

Both reports are published by Jossey-Bass, 28 Banner Street, London EC1Y 8QE.

Register of Educational Research in the United Kingdom

Volume Two 1976-1977 : NFER

This Register is the second to be compiled by the National Foundation in England and Wales. Details of the work of approximately 240 bodies (Universities, Colleges, Government Departments, Institutions and Associations) have been included. Wherever possible an abstract and other information such as dates, funding and publications has been provided. Fields covered include curriculum, teaching methods, equipment, psychology of education, management of education, the teaching profession, educational planning and the sociology of education. Price : £15.00

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Despite progress on some fronts, minority enrolments are still lagging.

'Patterns of inequality are already being set in concrete'

Positive discrimination projects to help minorities and women get a better higher education deal are continuing to get bogged down in legal wrangles and entrenched prejudice

In the 1970s affirmative action in higher education for racial minorities and women has apparently stalled. Programmes of action are stuck in litigation. The Bakke case absorbs the energies of the main black organizations.

An offensive by the Department of Health, Education and Welfare (HEW) against the college system of the southern states has faltered in a set of interlocking legal battles and arguments. Its action against Maryland is temporarily halted; the contest with North Carolina draws on.

Open admissions on the model of the City University of New York have died. The historically all-black universities feel threatened by desegregation—the proponents of black academic excellence have broken ranks.

Study after study has shown change to be limited or temporary. There are still too few women faculty, black and women administrators, black lawyers and doctors. And there is squabbling among the enforcement agencies and confusion between the Office of Civil Rights, HEW, the Equal Employment Opportunity Commission, the Departments of Labour and Justice and the White House.

Congress is supposed to be resentful of big government—it almost denied HEW funds for its enforcement programme. Now it is seriously debating a tuition tax credit that would divert federal higher education money to secure the academic achievement of blacks and minorities in individual grants.

Yet there are flashes of light within the gloomy picture. Individual colleges appear to have been successful in promoting a degree of change. Take Ohio State at Columbus. The university has fostered black recruitment to its graduate school by expenses-paid trips for honours students from the black universities. Such visits, with an extensive fellowship scheme, trebled the enrolment of blacks in the graduate school between 1971 and 1976.

But such figures may deceive. Black enrolment rose 3 per cent in 1975-76, despite which the proportion of blacks in the graduate school at Ohio State dropped.

Elsewhere, undoubtedly, there is progress has been made. Last autumn there were only 17 black doctors in Arkansas state—but the first year medical class at the University of Arkansas had 16 blacks. And the state claimed to have a general strategy for talent spotting among deprived blacks in the high schools.

In other states which practised *de jure* segregation until recently, such as Florida and Oklahoma, plans have been submitted to HEW's satisfaction for the foundation of an integrated system. New women students have moved through undergraduate and graduate schools from relatively tiny totals of 10 per cent to something like 50 per cent. Universities switched in 1960 when men received about a third. The number of women taking first professional degrees in law, medicine and dentistry has grown five times since 1970.

But the most recent annual report of the United States Commission on Civil Rights spoke of the danger of a loss of nerve and commitment. And although he was referring specifically to the position of the black universities, a recent remark of Dr Charles Lyons, chancellor of Fayetteville State University in North Carolina, is symptomatic.

He said: "The patterns of inequity for the year 2000 are already being set in concrete. Unless someone changes those patterns in enrolment in non-degree producing settings, along with the still minimal graduate and professional school patterns, we will still be at the same place, if not further behind, in the twenty-first century."

The pleading in the Bakke case before the Supreme Court has not stopped the enforcement of action by various government departments. There remains an impressive body of legislation and Presidential orders that requires programmes of action to be submitted by colleges.

The Office of Civil Rights, for example, recently reviewing the staff recruitment policies of a number of major institutions including Columbia University, found them wanting and negotiated changes (though not without complaints).

Title six of the 1964 Civil Rights Act, which forbids discrimination against students on the basis of race in all federally-assisted programmes, and Title nine of the education amendments of 1972, which forbids discrimination on the basis of sex to students and employees in all federally-assisted education programmes, are still powerful legal weapons.

There is also the 1972 Equal Employment Opportunity Act and executive orders, such as number 11300, of President Johnson, still to be carried through. The legal tools seem to be there; it is a matter of political will.

One question is whether the momentum built up by HEW in its enforcement of the existing legislation is powerful enough. Various commentators on the Bakke case have remarked, it is not the issue of that legal marathon itself so much as the fact that it registers the changing national mood.

Right is by no means all on one side. Take the current action by HEW against the state of North Carolina. The University of North Carolina stands to lose $100m of grants in federal money if it does not produce ten acceptable packages to increase black enrolment and upgrade its predominantly black colleges.

The university, which includes all the state's consortium of most sector of the black students enrolling as Harvard—claims it is being singled out. It says HEW is anti-southern and that HEW's integration guidelines would mean a return to remedial education on a large scale. The university also claims that the existing black institutions, such as the agricultural and technical university at Greensboro, would suffer if overlapping and duplicated courses were trimmed.

A number of black academics agree. In recent months a group of black academic elitists led by Dr Thomas Sowell, of Stanford University, have emerged with the argument that the positive achievements of successful black academies are being put into jeopardy by "reverse discrimination" and that black academic excellence should be encouraged even if it means *de facto* segregation.

Many former students at the black colleges obviously agree with such sentiments since their contributions have expended by several hundred per cent in recent years.

But how far has there been real change in the heartlands of academe? A recent survey supported by the American Council on Education showed that academic administrators were markedly stratified by both race and sex. Administrators with responsibilities for positive action programmes received less money. Only 2 per cent of the administrative staff of private universities were from minority racial groups. For doing the same job as men, women were paid only four fifths as much.

The increasing recruitment of blacks in two-year colleges has to be matched by the seeming impervionsness of the professions to minorities. Many people see Bakke as about the future of black medicine. Here there has been change. Ten years ago fewer than 3 per cent of medical students were from minority groups and under 1 per cent of law students were non-white. The figures respectively are now 9 and just over 8 per cent.

Medical and law schools do practise positive action. A recent survey by the Educational Testing Service found that only four out of every 10 blacks who applied to law school were accepted—this was compared to six whites.

However, while this can be explained by previous academic preparation, his most striking finding was that if the law schools had actually "racially blind" and had accepted blacks and other minorities at the same rates as whites. With similar college grades and standard admissions test scores, the number of blacks admitted would drop by over two thirds.

Attrition of minorities is well established within universities, too. Blacks form just over 8 per cent of undergraduates who matriculate, but 5 per cent of those who get their first degree, and just over 4 per cent of the numbers entering graduate school.

Change in those proportions depends, for one thing, on Big Government. The federal government is the employer of last resort—it employs one out of eight black college graduates. And high proportions of black lawyers and other professionals depend on the government

Major research institutions are placing increasing emphasis on undergraduate work

Those who can – teach

Many of America's prestigious research universities, public and private, are beginning to pay more attention to the quality of their undergraduate teaching, after a decade of concentrating on graduate students and research.

Leading the way is Harvard, whose dean of arts and sciences, Dr Henry Rosovsky, set up several task forces in 1974 to review undergraduate education at the university.

They have been reporting back to him over the past year, and, as a result, the faculty is being asked this month to consider legislation to set up an undergraduate core curriculum.

The proposed core would take up a quarter of an undergraduate's work at Harvard, leaving another quarter for "electives" and half for the student's "major" subject.

Dr Rosovsky (whose desire to see through the revitalization of teaching at Harvard was reportedly one reason why he turned down the Presidency of Yale before Christmas) has already asked university departments to include a formal evaluation of teaching abilities in all recommendations for tenure.

With the strong support of Harvard's President, Mr Derek Bok, he is also ensuring that young Harvard academics receive instruction in teaching methods, and encouraging older professors to revise their courses.

Of course, Harvard is not the only major university whose undergraduates have felt neglected by brilliant academics who are preoccupied first with research and second with their graduate students. Another common complaint is that they are not advised adequately what combination to choose out of a vast variety of possible courses.

Surveys by the Carnegie Council for Policy Studies in Higher Education, published in the recent review, *Missions of the College Curriculum*, indicate that students at all types of post-secondary institution show much the same overall degree of satisfaction with their college.

But while 75 per cent of those at liberal arts colleges were found to be "satisfied" or "very satisfied" with the teaching they received, only 65 per cent of undergraduates at research universities were as satisfied.

The proportions satisfied with the evaluation and grading of their work were 46 per cent at research universities and 62 per cent at liberal arts colleges.

At research universities as a whole, only 17 per cent of faculty members spend more than nine hours a week on formal undergraduate teaching, and at the more heavily research-oriented institutions 26 per cent spend no time at all on undergraduates—12 per cent teach for three to six hours a week. At liberal arts colleges 64 per cent of faculty members devote more than nine hours a week to formal undergraduate teaching.

The general rise in consumer consciousness in American society has affected students and given them higher expectations about the education they should be receiving for fees which, including tuition, room and board, may exceed $7,000 a year at the major private universities.

Student consumerism is one reason why even the universities with the greatest pulling power are putting more emphasis on designing better undergraduate programmes. Another is to prepare for the increasing competition for the smaller college age population.

Applications are still flowing in to the major research universities—they were up by more than a thousand this year at Harvard, Berkeley and Stanford—but they want to make sure they will be able to go on skimming only the cream of America's high school graduates.

Another factor behind the current phase of curricular re-examination is the much publicized "deterioration" in the academic preparation high schools give their pupils. It forces even the universities with the best qualified entrants to think of teaching freshmen basic writing and mathematical skills and a foreign language.

In addition, the fall in graduate enrolment has given faculty members more time to concentrate on undergraduates. This decline has affected arts (humanities) and some science departments—but not professional schools—at all major universities, and many are enrolling 20 to 50 per cent fewer postgraduates than five years ago. Even at Harvard the number of postgraduates in the faculty of arts and sciences fell from 3,000 to 2,200 this year.

One frequent objection to giving teaching performance substantial weight in the process of academic promotion, and particularly in the decision whether to award tenure to a young faculty member, is that there is no reliable way of measuring it. At least scholarship and research can be assessed in terms of the academic's output of papers and/or books.

The most obvious way to measure teaching ability is to ask the students, and the use of questionnaires on which undergraduates give their opinions of the faculty's performance in class is increasing fast in American universities.

Here, for example, are some of the questions to be asked of final-year undergraduates in the University of Minnesota's new teaching evaluation project: "In percentages, how often is this teacher clear and interesting, a skilled and inspiring teacher?" "In percentages, how often is this teacher organized?" "In percentages, how often does this teacher give tactful and honest feedback to students?"

Those who object to student assessment of teaching point to surveys showing that, when asked several years after graduation which courses or teachers had the most lasting benefit for them, people's answers are different from the ones they would have given while still at college.

At Princeton—probably the major university where undergraduate education retained the greatest importance during the long rise of research and graduate schools—students have filled in course evaluation forms, and thereby had at least some say in the tenure process, for a number of years.

But, of course, even at Princeton teaching skills are only a secondary factor. Research and publications have to come first, because, as academics like to say, brilliant teachers without sufficient foundation in scholarship tend to burn out young.

Faculty bargaining spread shows signs of slowing

This year the tenth anniversary of the landmark unionization of the City University of New York (CUNY), which touched off the rapid spread of collective bargaining through America's colleges and universities.

Although the movement started in the north-east, and particularly in New York State, the West Coast is now the major focus of bargaining activity. The scramble for bargaining rights in California's huge community college system, which started in 1976 when the state legislature first premitted collective bargaining in two-year colleges, continues.

Intense political pressure is on the legislature this year to extend unionization rights to the 19 institutions of the California State University and Colleges and the nine campuses of the University of California—the pinnacle of the state's higher education system. Their staff are about the only state employees to whom collective bargaining is still forbidden.

Elsewhere the unionization movement has lost a little steam. A survey by the University of California's Faculty Unionization Project at Berkeley showed that the pace of organizing activity was slower in 1977 than in any year since 1968: the three rival teacher organizations—American Association of University Professors (AAUP), National Education Association (NEA) and American Federation of Teachers (AFT)—gained new bargaining rights in only seven four-year colleges and universities and 23 two-year colleges (of which 21 are in California). And, omitting for the unions academics in eight four-year institutions voted not to be represented by any of the three organizations.

Observers believe the union's available market may now be saturated. Most public institutions in the 24 states whose laws permit collective bargaining by state employees have already been organized, and further widespread unionization of the public sector will depend on the legislatures of the remaining 26 states passing collective bargaining laws.

Dr Morton Baratz, former labour economist and, since September general secretary of the AAUP, believes very few of these 26 states will in fact pass the necessary legislation in the near future because the political tide has turned against public employee unionization.

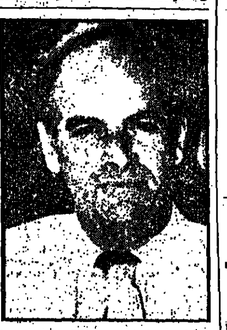
Nor does he believe there is much mileage left for the unions in the private sector. None of the major independent research universities has yet been unionized and Dr Baratz does not think any will be in his lifetime.

As things stand, about 82,000 academics in 196 four-year institutions and 52,000 teachers in 290 two-year colleges are represented by a collective bargaining agent. That leaves about three-quarters of American academic staff unrepresented.

The two big teacher unions, the NEA with 1.1m members and the AFT with 500,000, have been fighting for members and bargaining rights in higher education from the outset. The AAUP did not officially commit itself to the unionization of university professors in the battle until 1972, and Dr Baratz still sees his organization as a professional association rather than a trade union.

Mr Al Shanker and Mr John Ryor, leaders of the AFT and NEA respectively, have no such qualms. They see no difference between their ambitions in higher education and their role in elementary and secondary schools, where the mass of their members work.

Although in gentler days the NEA tried to be a professional organization, too, it is now a trade union (security budget).



Dr Baratz: Limits to unionization

just as the AFT has always been. Despite their industrial aims, the two do have different policies—indeed critics charge that their rivalry makes them adopt different stances for the sake of being different.

For example under the headline "NEA Gets Plum, AFT Munches Sour Grapes," the NEA Reporter specially quotes The New York Times education editor Edward Fiske as saying the federation would probably consider coming out against the use of multi-choice tests if the association came out for it.

The article in question was about the NEA's (or and the AFT's chagrin at President Carter's recent statements that he will work with Congress to create a separate Department of Education.

The NEA, very strongly supports the idea of a separate department to give education more visibility; the AFT maintains that the extra visibility would give Congressional examen a clearer view of federal education programmes before chopping them (whereas in their present position in the Department of Health, Education and Welfare they are camouflaged by the huge social

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Junior colleges look to lifelong learning for expanding future

The United States' 1,230 community colleges are feeling neglected. Although they have been the country's fastest growing educational sector over the past 15 years, they have received much less attention, both in the media and from educationists, than either the compulsory sector or the universities and graduate schools.

The community, junior or two-year colleges, as they are variously known, have not, however, exactly been neglected by the general public. This year their total full- and part-time enrolment in courses for academic credit reached 4,264,000—compared to 660,000 in 1960—and another 4m people are thought to use the colleges for less formal non-credit activities.

However, a recent Gallup Poll for the American Association of Community and Junior Colleges (AACJC) showed much public misunderstanding of their role and nature. For example, 45 per cent of the respondents believed the community colleges' primary mission was to provide preliminary academic training to enable students to go on to a four-year college or university.

Until the 1970s their main function was indeed to provide two-year liberal arts programmes, parallel to the first two years of a Bachelor's degree and ending in the "associate degree". Students could then transfer to university to complete their Bachelor's degree programme.

Now, however, this is the least important, in terms of the numbers involved, of the three major types of programme offered by the community colleges.

More than half of their formally enrolled students are on vocational occupational technical courses leading directly to employment in a specific field. They include technician-level engineering and biomedical programmes, business, commerce, accounting and secretarial courses, and public service technologies such as fire brigade and police training.

The third category of activity, which the colleges call community education, involves those 4m Americans who use their teachers and facilities for purposes other than obtaining a degree or diploma. They include adult education, cultural events, upgrading job skills, special programmes for women and the elderly, and so on.

These "lifelong learning" activities are what the community colleges are counting on to maintain their expansion through the 1980s while the number of young people of traditional college-going age falls off.

The various elements of lifelong learning are summarized thus by Professor Nathan Glazer of the Harvard Graduate School of Education: "Higher proportion of adults attending colleges and universities; a delay in the beginning of higher education and interruptions in it so that the individual, instead of running one main race, runs many smaller ones, responding to circumstance, need, interest; the use of institutions of higher education to provide new occupational training for those whose old occupations have become redundant, or for new tasks created by technology and society; and the use of such institutions to keep professionals up-to-date, and to teach leisure-time pursuits and satisfy recreational interests."

Community college leaders are therefore becoming increasingly angry about the continuing tendency of legislators, public commentators, even educationists, to judge them by conventional yardsticks such as drop-out rates and the number of degrees and diplomas awarded.

They get particularly upset when they are attacked by politicians for providing too many "frills" and told by state governments to get back to more basic academic or technical courses.

California's famous community college system, which enrols nearly a third of all two-year college students in the United States, is under just such pressure from Governor Jerry Brown. He has condemned "frills and entertainment courses" and initiated an audit of the colleges' spending by the state Finance Department.

The colleges say their duty as *community* institutions is to provide courses the community wants. As Dr Charles Pappas, President of Mott Community College in Michigan, put it at a recent meeting of AACJC: "We're all under pressure to get rid of 'frills', but if taxpayers in a community want to take a course, who is to call it a frill?

"Belly-dancing is one of our most popular courses, and I suppose some people would consider it a frill. However, the women who take it enjoy it, find it an art and think it's good physical education."

An example of an eminent educationist judging community colleges on what they would say were the wrong terms is provided by Professor Alexander Astin's new book, *Four Critical Years*, which analyses the gigantic ten-year Cooperative Institutional Research Programme (CIRP) of the American Council on Education (ACE) and the University of California Los Angeles (UCLA). He says two-year colleges have much less of a beneficial effect on students than four-year institutions.

"Perhaps the most significant impact of attending a community college is on the student's persistence and implementation of career plans. Even after controlling for the student's social background, ability and motivation at college entrance, the chances of persisting to the Bachelor's degree are substantially reduced", writes Professor Astin.

Professor Astin gives two explanations why expansion of American higher education has been so heavily concentrated on the community colleges. "Educators in more prestigious institutions have probably supported community college growth because it represented a way of expanding educational opportunities that did not threaten their own selectivity and eliteness. Legislators have supported the expansion on the ground that community colleges represent a much less expensive postsecondary education. This 'economical' form of higher education, however, may be illusory."

Community college leaders would say that direct comparisons between two- and four-year colleges of the sort that Professor Astin and many others have made are no longer appropriate. They also reject claims that community colleges have high drop out rates.

The AACJC quotes a Florida study showing that if "drop out" is redefined to include only those students who have neither achieved their educational goals three years from the time they enter a community college nor have any plans to achieve them, the proportion of "drop-outs" is less than 2 per cent.

The association runs several schemes to encourage colleges to diversify their activities. One example is a three-year programme to promote community college cooperation with trade unions, by providing "labour studies" courses for union officials, for example.

Another idea being encouraged by the AACJC is the "community forum". Some colleges are already successfully promoting town meetings at which citizens can thrash out controversial issues like plans for a new highway or even the Panama Canal treaties.

More than 200,000 teachers are employed by community colleges, though less than half of them are full-time faculty members. Only 10 per cent are thought to have doctorates. However, in 1970 6 per cent had a PhD and it is estimated that by 1980 20 per cent will either hold or be working for one. About three out of four community college staff have a Master's degree.

One community college in two arranges its faculty members in a university-style hierarchy from professor down to instructor; in the other half staff are unranked. Two-thirds of the colleges have an academic tenure system, with probationary periods ranging from two to seven years.

Average salary for teachers in the two-year colleges was $16,100, according to the American Association of University Professors' survey of academic pay in 1976-77. This is significantly higher than the average in the lowest tier of four-year colleges (those giving Bachelor's degrees only) where the comparable figure was $14,790.

Journalism's role as 'golden goose'

Although the glamour of Watergate is now fading and the number of journalism graduates is far greater than the media and public relations business can absorb, students are continuing to crowd on to journalism courses.

According to the latest annual survey by Professor Paul Peterson of Ohio State University, America's colleges and universities had 60,930 journalism undergraduates this year, up 2.3 per cent on 1976-77. The average annual growth rate of the previous decade was 15 per cent.

The classrooms are crowded as well as the job market. The staff-student ratio in journalism departments deteriorated from 1:21 in 1970-71 to 1:33 in 1974/75, despite some faculty recruitment.

Professor Peterson found that about a third of the 183 journalism departments and schools had placed additional restrictions on admissions to prevent staff and facilities being swamped.

After years of riding as unpaid passengers in the back of the academic bus, journalism departments have finally become too rich to be ignored. Professor David Rubin of New York University has written in *Change* magazine.

"During the present budget crisis in higher education, journalism fortuitously has turned into a golden goose of academics, happy tuition-filled eggs that help to nourish the many emaciated departments in the liberal arts", he says.

However, Professor Rubin added the happy state of academic journalism was spoiled by one thing: the Writing Problem. Many journalism departments are taking in large numbers of students who do not really enjoy writing, have not been taught to write properly at school and successfully avoid almost all writing in the unergraduate courses made available by large departments.

There are signs that some journalism schools are beginning to do something about it, because their future prosperity is at stake. For while surveys show that up to 6 per cent of journalism undergraduates are not intent on careers in the field they may have majored in journalism as an interesting route to graduate or law school—the remaining 60 per cent would desert the departments if they thought they could more easily get into a journalistic career by majoring in something else.

Putting the clock back

American colleges have been slipping quietly away from the traditional semester system over the past decade and adopting other forms of academic calendar.

The academic year—like so many other aspects of American higher education—has its own self-appointed record-keeper, Mr Lloyd Olsson, registrar of Doane College. His latest annual survey of academic calendars, covering 2,422 institutions, found only 7 per cent still working by traditional semesters.

Ten years ago 83 per cent were using the system, under which students arrive in mid-September and continue classes, with a winter break of a fortnight or so, until the end of May.

Now the "early semester" calendar is easily the most popular. The 48 per cent of colleges and universities that have adopted it start the academic year much earlier—mid or late August—and finish somewhat earlier—usually early May.

The quarter system, which is closest to the British academic calendar, is used by 24 per cent of institutions. There are three working quarters, which start in mid-September and end in mid or late June, divided by two or three weeks' holiday over Christmas and a fortnight at Easter.

The "4-1-4" calendar has four-month terms in the autumn and spring and a short winter term (which might cover the month of January). It is operated by 13 per cent of Mr Olsson's institutions.

The remaining 8 per cent use other systems such as "trimesters".

Washington holds jobs key

The federal government is the major employer of graduates in the United States and its role is likely to grow still further

The political stalking horse of the moment in the United States is once again "Big Government". It means, variously, federal bureaucracy, creeping government regulation, or a squeeze on the market or profit sector of the economy. It also means jobs for the boys—and the girls—produced by the college system.

For Big Government involves big higher education, and nowhere is this fact more apparent than in the job destinations now being published by the Department of Health, Education and Welfare.

Big Government provides jobs for nearly two thirds of all Master's degree students. At the first-degree level, of the class of 1975 219,500 found jobs in federal government, teaching, or state and local administration. Another 54,000 took jobs with foundations and other such bodies in the non-profit private sector.

In the terms of Milton Friedman or even Ronald Reagan, this means that 46 of every 100 graduates forsook the market sector. To make matters worse—looked at this way—the federal bureaucracy paid new graduates $10,000 a year on average, compared with $9,900 in the private sector ($9,500 will buy a single person a comfortable standard of living in most parts of the United States.)

The rate of graduate unemployment therefore depends on Big Government. The optimistic projections for graduate jobs in 1978 being made by the College Placement Council and others rest heavily on growth in federal jobs. Without an estimated 23 per cent rise in the number of federal posts this year, there would be at least one job in a hundred fewer for humanities and liberal arts graduates.

Teachers have been, and are, most dependent—as far as graduates are concerned—on the state for their livelihood. In 1974-75 nearly a quarter of all graduates (227,000) were qualified to teach; of the 178,000 who actually applied for jobs that year just over half were successful.

The fall in teaching opportunities in the next few years—for demographic, if not political, reasons—will reduce these figures significantly. The government estimates that the demand for extra teachers between 1976 and 1980 is only two thirds that between 1971 and 1975.

Yet such figures can give a misleadingly gloomy impression. Teachers are by no means as badly off as some other graduates, says Dr Mark Pernisky of the National Centre for Education Statistics. He has calculated that the rate of underemployment among those qualified to teach—the number who end up in jobs requiring qualifications lower than a degree—is less than the average. And teaching salaries, for those who get the jobs, compare reasonably well.

Indeed, the general picture of graduate employment, if not quite rosy, gives little cause for concern. Last year while the rate of unemployment among the 16 to 24 age group was more than 12 per cent, unemployment among college graduates was estimated to be about at the level of general unemployment—around 8 per cent.

Within the national debate about social policy, it has been school leavers, especially minorities, who have been the focus of attention—one in 20 black high school graduates are out of work. In contrast with Europe, there has been little discussion of manpower planning or quotas on entry to professional schools except for Medicare.

Generally, it seems, that "market mechanisms" have worked. During recent years intending students have accurately estimated the future demand for their services and, by and large, the products of the colleges have meshed with economic opportunity.

Rates of graduate unemployment are lower than those for high school pupils. In 1974 and 1975, for example, when the overall unemployment rates were 5.6 per cent and 8.5 per cent respectively, the rates for recent high school graduates were 9.8 per cent and 13.6 per cent; while the rates for recent college graduates were at 5 per cent and 8.3 per cent. "Most analysts agree that there still exists a positive return to investment in post-secondary education and that the returns are greater if the education is completed", says the survey.

This kind of optimism has been boosted in the past two years by the work of the College Placement Service and university careers services which show convincingly that the recovery from the recession of the early 1970s is speeding along as far as graduates are concerned.

An annual survey of employers compiled by Mr Frank Endicott, retired director of placement and emeritus professor of education at North-Western University, found that business and industrial firms plan to take on one graduate in six more than last year. It is a good year to have an engineering degree, at both undergraduate and post-graduate levels. There will be half as many again jobs for PhD engineers this year as in 1977.

In the case of engineering, the "market mechanism" appears to work. A glut of graduate engineers a few years ago was followed by a reduction in applications, subsequent higher earnings for starting engineers which stimulated a renewed interest on the part of undergraduates. The average monthly salary being offered to starting chemical engineers in 1976-77 was $1,389 compared with mathematicians' $1,073 and social scientists' $863.

A boom in accountancy is now on with good job prospects stimulating double and treble the number of students of a few years ago to apply to university to study the subject. The American Institute of Certified Public Accountants reported last year that the number of first degrees in accounting has grown from 20,800 in 1971 to 44,100 this year and by 1981 it will reach 50,000. As a student in accountancy said: "I don't think anyone takes accounting because they love it. It's because of what you can do with it."

A smaller boom has been noted in the range of courses that come under the heading of public affairs and services. The National Centre for Education Statistics predicts that the number of undergraduates completing their degrees in public affairs will increase from just under 40,000 last year to more than 60,000 by 1985—this compares with barely 10,000 a year in 1970.

By contrast, English has dropped from 73,000 undergraduate degrees in 1971 to 51,000 in 1976 and an estimated 35,000 in 1985. Humanities in general, which cover popular courses such as communications, show a fairly stable pattern with total numbers staying around 140,000 degrees a year.

This "boom and bust" pattern of courses does not hold for the new arrivals on the academic curriculum, notably computer science. The projections are that the subject will double in size by 1985. Computer specialists are second only to engineers in their initial earnings potential.

Perhaps in response to increasing signs of anxiety within the American Bar Association about a "flooded" profession, the government projects that LLBs will level off this year for the next eight or so years. Holders of the degree have doubled since 1969.

The key to graduate recruitment is, of course, students' expectations. There still circulate horror stories about PhDs doing manual work because the academic jobs they aspire to are not available. In fact, students at all levels have unrealistically high expectations.

Surveys of unemployed graduates show that over half have "high expectations" and many others might have found work they had really wanted to. They had turned down at least one job offer, had looked for work for less than two weeks, had looked only for part-time work, or had relied on their spouses who worked.

The picture for PhDs who expect academic jobs is not bright. The American Historical Association, for example, recently estimated that the number of full-time academic jobs available in history had declined by a third in the past few years.

But such figures, of course, conceal much "underemployment". Of the undergraduates in 1975, a quarter were underemployed and went on to take jobs which did not require a university degree. Another 25 per cent were in jobs for which it was impossible to say whether a degree was actually needed. Only half could be said to have jobs commensurate with their education. Underemployment was found to be rife among humanities and social science graduates, undergraduates who specialized in education were much less likely to become underemployed than mathematicians, physical and biological scientists and psychologists.

This degree of underemployment means, however, that American students are much more flexible in their job ambitions than, say, their counterparts in Europe. The very high levels of graduate unemployment in Italy, for example, arise largely from the expectations university students have about the job market.

The low rate of graduate unemployment in the United States is increasingly underwritten by the rate of expansion of government. The parallels with Italy are close. Congress thus faces a paradox. The mood of the moment—witnessed by the defeat of consumer protection legislation—is against Big Government. But it is in favour of extensive aid to students' parents.

It could be that the students encouraged in their higher education by measures such as the tuition tax credit will face problems if Big Government does not continue to expand and recruit the products of the universities and colleges in large numbers.



Graduate teaching jobs remain heavily dependent on national policies.

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DENT

Campuses accept that federal involvement is here to stay

The United States government spent $11,800,000 on education in 1930. President Carter's 1979 budget included $4,600m just for the higher education programmes of the Department of Health, Education and Welfare (HEW) and a further $3,600m for federal support of research and development in universities and colleges.

It is worth giving a historical perspective to this huge expansion of the federal stake in the academic community before considering its effects on university life.

The early colonists' distrust of strong central government lingered on most strongly in the conduct of education. "For the first 150 years of the nation's existence, the degree of federal intervention into education was so sporadic, limited and unobjectionable as to require only miniscule federal staff to handle the modest financial and land transfers, and no constitution, philosophic or organizational problem seemed to present itself", writes Rufus Miles, senior Fellow at Princeton University's Woodrow Wilson School of Public and International Affairs.

The constitutional separation of church and state, combined with the preponderance of religiously supported schools and colleges, reinforced the colleges' desire to be free of government interference.

In the 1860s the government handed over vast tracts of public land to the states to establish land grant colleges directed primarily towards the agricultural and mechanical arts—the forerunners of today's huge state universities—and it created a non-Cabinet "Department of Education" which was soon renamed the Bureau of Education and later the Office of Education.

But neither step heralded major federal interference in university and college affairs, for the states were allowed to run the land grant colleges as they wished, and the Bureau of Education did no more than collect statistics and report on the condition of education in the United States.

Even the pressures of the First World War produced little government intervention, though it is interesting to note that the colleges themselves expressed a patriotic wish for Washington to become more involved. The Association of American Colleges called on President Woodrow Wilson to "take steps looking towards the immediate comprehensive mobilization of the educational forces of the nation for war purposes under centralized administration, which would coordinate effort and stimulate defensive activities."

John MacCracken, President of Lafayette College, told the association: "There is a widespread feeling that American education is not organized to make its greatest contribution to the war. The experience of the past six months has shown that the need is twofold: first the need on the part of the government, second the need on the part of the colleges—that in both cases the need is not so much for unity of spirit and purpose as for coordination which is unity at work."

But it took President Roosevelt's New Deal policies of the 1930s, and the assumption by the central government of many functions that Americans had previously thought of as state, local or private responsibilities, to bring Washington into the world of education.

The Second World War saw a boom in government sponsored war-related research and training. Afterwards the "GI Bill of Rights" gave demobilized soldiers hundreds of millions of dollars to spend on higher education.

But it was the launching of the Soviet Sputnik satellite in 1957 which jolted American politicians, educationists and scientists into a furious competitive reaction. United States' government expenditure on all forms of research and development soared from $3,000m in 1956 to $16,500m in the peak year of 1967.

Thereafter partial public disillusion with science persuaded Congress to turn down the flow of federal funds, and research expenditure fell back in real terms over the next seven or eight years. By 1976, however, scientific lobbyists had persuaded Congress and then Jimmy Carter's White House that the level of basic research had, in Carter's words, "fallen far too low over the past decade". The President's 1979 budget, announced in January, included a 5 per cent increase in basic research funds.

The build-up of the federal student aid programmes came later than the research boom, starting during the Kennedy-Johnson years of the 1960s, when equality of access to higher education became a government priority. The primary mission of federal higher education programmes is still, in the words of the 1979 US Budget document, "to improve access to post-secondary education for students of varying economic backgrounds".

By the mid-1970s financial assistance to students had comfortably overtaken research grants and contracts as the biggest source of federal funds for higher education (see table below), and the gap will widen further over the next few years if Congress passes the student aid extension announced by President Carter last month (*THES*, February 17).

Washington wisdom now generally accepts middle-income families as a class that needs help to pay college bills (more than $7,000 a year at the most prestigious private universities) if all Americans are to enjoy equal educational opportunities, just as poor students were accepted as a needy group 15 or 20 years ago.

As the principle of federal aid for higher education became established, Congress found itself besieged by a growing army of educational lobbyists (though perhaps rabble would be a better word than army to describe the many specialized groups seeking funds for their own separate interests).

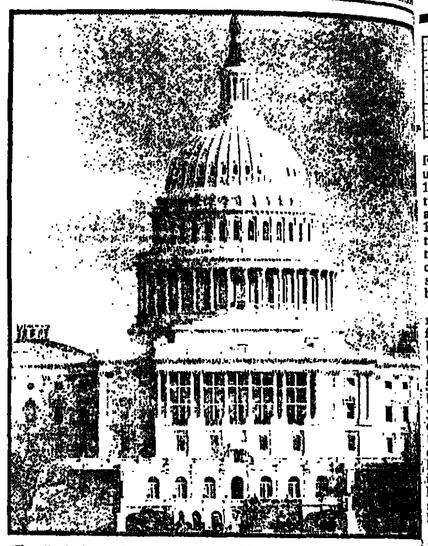
As Rufus Miles puts it: "There developed the classic triangular relationship between the narrow specialized lobbies, the subcommittees of the Congress, and the specialized programme managers of the executive branch, each of which benefited by the efforts of the other two. Congressmen gained more credit with their constituencies when they passed many earmarked grant programmes than they would have if they had passed one large 'block grant'."

The result was—and is—a chaotic mass of unrelated, uncoordinated federal programmes to direct national funds to meet allegedly national needs that local, state and private organizations cannot or will not deal with. In 1974 the College Entrance Examination Board identified 439 separate federal programmes giving money to higher education either directly or through students.

The Carter Administration is trying, as the 1979 Budget document says, to cut out some of the redundant programmes by shifting the focus of higher education aid to direct student support (for example, by asking Congress to phase out the cooperative education and university community services programmes).

But these programmes all have their lobbies which will try to deflect the axe—and at the same time HEW is proposing to fund new institutional support programmes, such as grants and loans, to help colleges improve access for handicapped students, conserve energy and strengthen research libraries.

The combined burden of all these federal education programmes and research grants weighs on colleges and universities in three distinct though closely related ways.



The Capitol: centralized decision-taking in higher education is inevitably increasing.

First, there is the sheer cost of administering them all. Second, institutions and individuals have to account to the government, sometimes in great detail, for the way they have spent the money. And third, the government uses its grants—or the threat of withholding them—as a weapon to force institutions to implement its social and political policies, notably civil rights rules and regulations.

Studies have indicated that the cost to higher education of administering federal programmes and coping with federal regulations may have risen 10 or 20 times in the past decade or so, to at least $2,000 a year.

For the past year or more, leaders of the major granting agencies and government departments have been promising to simplify and reduce the paperwork involved in dealing with their programmes.

Dr Frank Press, President Carter's science adviser, says the major universities might save millions of dollars each if his drive to take some of the paperwork out of the federal research-granting procedure succeeds. HEW (which controls the National Institutes of Health) and the National Science Foundation are actively looking for ways to simplify their grants processes.

Of course, the current political pressure for more and more "accountability" in the expenditure of public money conflicts with moves to reduce the detail and frequency with which the academic community has to account for the way it has spent federal funds.

And unfortunately higher education's case has not been helped by recent publicity given to HEW audits showing that universities have not been accounting properly for research grants worth hundreds of millions of dollars (*THES* January 20).

Such publicity, says Mr Max Binkley, vice-president for finance at Colorado State University, "leads the public and Congress to believe there is need for tighter control than now exists over federal funds administered by universities. In this circumstance higher education can hardly expect favourable reception when it contends that controls are already too rigid and too cumbersome".

There are laws that limit the powers of the government to use its financing of higher education to regulate colleges. For example, the General Education Provisions Act has a clause forbidding the use of its programmes by federal officers to exercise any supervisory control over educational institutions.

But the wording is vague, and whatever their rhetoric, federal lawyers, of the academic community expect any serious reduction of federal involvement in higher education.

According to Mr Charles Saunders, director of government relations for the American Council on Education (which is in effect the chief lobbyist for the higher education lobby group), "the most vulnerable [to] further federal intervention is the most critical for the protection of academic freedom, [the] private, voluntary accreditation process by which the higher education community has [tried] sought to assure educational quality".

The Office of Education [is] considering ways of determining which colleges and universities are worth attending, because of [the] over disreputable institutions "ripping off" federally-aided students.

Mr Saunders criticized [the] lack of interest shown by higher education in the issue of accreditation — the feeling of most academics that, because their own institutions had satisfactory standards, [there] was no need to worry.

"The theory is a grave misjudgment", he went on.

"How high an institution's standards? It cannot escape liability for deficient standards in the rest of the community. When those deficiencies result in scandal, the federal government may come rushing in to the vacuum which our laissez faire version of academic freedom has created, and regulate us all."

The answer, Mr Saunders believes, is for higher education to forestall further federal intervention by developing its own self regulatory system.

Even so, he warns, "the 1980s will surely see a continued strong federal involvement in higher education. We may resign ourselves to living with red tape, but we must brace ourselves to resist those pressures towards centralization, standardization, bureaucratization and uniformity which threaten the diversity that is a fundamental strength of our system."

Public support of public and private institutions of higher education, 1976-77

Source of support	Total amounts (billions of dollars) public	private	Amount per student (dollars) public	private
State and local funds	16.7	0.6	2,660	240
Federal funds	9.3	4.7	1,480	750
Research	2.0	1.5	320	1,200
Student aid	5.2	2.3	835	470
Other	2.0	0.9	325	1,320
Tax exemptions	4.8	2.6	760	4,030
Grand total	30.8	7.9	4,900	

Table derived from data compiled by Carnegie Council on Policy Studies in Higher Education.

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THE STEADY STATE UNIVERSITY

Motto for 1980s—never play it safe

Is the steady state university to be a fixture? Charles Carter starts a series

First, a disclaimer. I am not predicting a steady state university. We do not know whether, beyond about 1986, the British university system will be static, contracting or expanding. All we can say is that the assumptions necessary to produce an expansion look, in 1978, very unlikely: and that the existence of academic tenure makes any precipitate contraction very difficult to achieve. Thus there is sense in looking at the implications of keeping the system at a constant size with, say, 340,000 to 350,000 students, and that is what I shall be talking about.

But a system of constant size will not be, in a technical sense, in a "steady state". The age distributions for different universities and different subjects would be changing. If, for instance, all professors and lecturers in Coptic will be aged over 60 in 1980, while all professors and lecturers in Swahili will be aged under 50, it is a fair guess that in 1990 the Coptic age distribution will have suffered a violent change towards youthfulness, while that for Swahili will be, near enough, 10 years up the age scale. In subjects where there is active movement to or from non-university jobs, other large changes may have occurred, and some will have altered the balance between subjects. If accounting studies became less popular, which is not very likely, there would be no difficulty in "losing" some staff to jobs elsewhere, and some resources would become available to expand other subjects.

Furthermore, those universities which expanded fast in the 1950s and early 1960s will have quite a lot of retirements between 1986 and 2000: so they will be able to use the control of replacements to give themselves flexibility. Universities like my own, which expanded in the late 1960s and 1970s, will have very few retirements at full age during the present century; but, of course, if there are retirements from senior positions in other universities, we shall expect some members of staff to wish to move in order to obtain promotion. So we are not entering an Arctic night, in which everything will be frozen and inflexible. More accurately, the problem will be that the extent of flexibility is likely to be a good deal less than is needed to meet the changes to which the university system ought to adapt.

Those changes are most easily visualized as changes in student preference. This is not entirely satisfactory, because universities are not factories to produce graduates: if the fall in the number of physics students has released the energies of staff to pursue valuable lines of research, this may offset the loss due to their underemployment in teaching. However, the other side of this is that people who ought to be contributing more to knowledge which the community needs, such as the accountants, may be overemployed in teaching because we are unable to find resources to transfer to meet rising numbers.

The fall in student numbers for a particular subject in a particular university can easily amount to 25 per cent over five years, and this far exceeds the likely flexibility in staff numbers. Consequently expanding subjects will be starved of resource: it will be as if the conditions of 1975-77 had become permanent.

I will leave to others to explore what might be done about this in the field of staff policy—by early retirement, retraining, or a straight attack on the institution of tenure, which assumes the world to be far more invariable than it is: remarking only that what is likely to be achieved, in this difficult and politically contentious area, is far less than would be needed to provide adequate flexibility. In consequence there may begin to be substance in the accusations that universities are out of touch with the needs of the community, and this may make things worse, since this remoteness can be used as an excuse for denying funds.

It is an accusation often brought against the directors of research laboratories that they do not know when to stop pursuing a line of research: at what point, that is, the diversion of resources to a new subject would yield a higher productivity. Therefore, unless they can get a constantly expanding supply of funds, the average productivity of their work tends to fall.

But the problem which faces those who manage universities is much worse. A teaching activity cannot be cut off by a sudden decision, but must be continued to provide for students already on course. Phasing in a new course as you phase out an old one almost always implies a considerable increase of work. The new course may also require new skills, not present in the existing staff. Hence the successful establishment of a new course commonly requires some lubrication by the grant of extra resources, and, if these are not available, it is easier and safer not to innovate. Nor can it be expected that the urge to innovate will be growing, since the average age of university staff will be rising, and many may feel that the established pattern of work may as well last out their time.

The problem of finding resources to innovate belongs, of course, to departments which are already fully loaded or overloaded. In departments which have suffered a recession in demand, for instance physics and chemistry (in many universities), there should be enough flexibility to allow for innovation. But the desire to seek out change does not always go with the ability to achieve it. I have recently had separate discussions with each of the subject-departments of my university about their future plans, not, of course, for a steady-state period but for a period of expansion.

Naturally enough, the liveliness of new ideas and the sensitivity to changing needs differed greatly from one department to another. Broadly, however, the innovative spirit was most present in small departments, in those which have the greatest degree of democratic participation by all members of staff, and, with a few exceptions, in those already carrying heavy loads of teaching. The lightly loaded departments were in general much less productive of new ideas.



It is, of course, possible that the recession in some subjects has been made deeper, or has gone on longer, because the lack of an innovative spirit has been felt by the schools and by the community in general. If that is so, such subjects will have gained the elbow-room to innovate only by becoming so dull that innovation is unlikely.

When the new universities were set up their vice-chancellors, now the most senior of their short-lived race, were invited to join some of their more experienced colleagues for a conference at a delectable spot on Lake Como—perhaps the purpose was to identify and tame any *enfants terribles*, in which case the conference was only a partial success. I remember saying on that occasion that the real test of a new university would come after 10 years, when it had invested a lot of intellectual capital in courses and systems, and no longer had the stimulus of rapid growth and fresh beginnings.

The whole British university system now faces a similar test. Can it increase its rate of innovation and adaptation, despite having fewer resources with which to encourage the process? Can it do new things when it is very much easier to go on in established ways?

The previous paragraphs suggest various reasons for pessimism. They apply with particular force to the extension of the academic map to include entirely new subjects. Several new areas were colonized in the 1960s, but each required a major investment, taken from expanding resources. Any similar proposal would be met now, and still more in the 1980s, by the growls of underfed dogs already in the manger.

However, there is no such thing as an academic subject which is unrelated to anything else. It might, indeed, have been better in some cases if, instead of inventing entirely new subjects, we had been content to allow their area to be conquered by gradual settlement from adjoining disciplines. That will have to be the plan during the remainder of this century, unless earmarked grants or private benefactions are available on a considerable scale.

It would be wrong, however, to carry our pessimism too far. To some extent it is possible to stimulate innovation, even in the most unfavourable circumstances. First, a university must seek to improve the flow of information from the outside world. What is happening in universities in other countries, or in polytechnics and higher education colleges in our own? What trends can be seen in the schools, either in the interests of pupils or in the extent of their preparation? What are employers saying about graduates? What can we learn from those who study technological or social trends about the future years in which graduates will serve the community and university research will help in its development?

There is, as all vice-chancellors know, a weak spot in academics: though capable of being quite as irrational as any other group of men and women, we *think* we are particularly rational, so we find it difficult to ignore a set of facts presented with appropriate academic care. Our ability to pursue, with satisfaction, an irrelevant path depends on being isolated from the facts of the world around us. So the breakdown of that isolation will help to produce change.

Second, somewhere in the university there should be a person whose job it is to question and re-examine its systems. As all readers of *Microcosmographia Academica* (F. M. Cornford, 1908 Required reading for all academics, as I learnt from Lord Ashby) will know, there are a number of well-established university procedures for preventing new things happening. In a particular university, these procedures work through complex structures of committees and administrative systems. These structures commonly abhor innovation. The proportion of innovations which survive in a viable form after consideration by eight or nine committees is negligible. So someone has to ask why the structure itself exists; why it cannot be made much more simple and expeditious; why it might not be possible, just occasionally, to let an individual get on with his own ideas untrammelled by any committees.

Third, somebody or some group of people have to give time, and feel responsibility, for the full *development* of new ideas. Characteristically, even the best and most relevant innovations come forward half-baked; and, indeed, this provides a chief means by which persons of a conservative spirit ensure that nothing gets done, since they can draw attention to the inadequacy of the proposal or to the failure to go into all its implications. If a university wants to continue to innovate and adapt in unfavourable circumstances, it must make sure that new ideas are not wasted in this way, but are worked up and developed into sound and consistent schemes.

I suggest, too, that in preparation for the 1980s the universities should develop a more independent spirit. In recent years there has been some tendency to act as if we were all governed and directed by the University Grants Committee. Now, of course, in relation to any new development which requires a great deal of money (and, in particular, a specialist building) the UGC has the whip-hand. On all other matters, however, the committee should be seen as a helpful source of information, and no more.

Centralized control will never produce an adequate adaptation to the needs of society; it is essential that we should remember that we are free agents, under our Royal Charters and that a sensitive response to changing circumstances is much more likely to come from the diversity of free enterprise. Beware of the vice-chancellor who says: "The UGC won't let us do that"; he may be using the UGC to stop something which he does not like, but every time the argument is used we sacrifice some of our liberty. Freedom is kept only by exercising it.

Finally, I think it would be wise in approaching the period of no growth to have a hard look not just at the complexities of internal structure, but at the general principles of university government. The UGC in one of its reports expressed disappointment at the lack of innovation in the government of the new universities. This was rather unkind, since we were all sent model Charters and Statutes, and naturally deduced that we were expected to follow them: but the criticism nevertheless has some point.

The fundamental objection to the system of university government which has grown up in this country is that academic matters, both in teaching and research, are left to be decided by academics, and are thus insulated against any new ideas which might come from those who work in other occupations. Therefore the inflow of thought, which might stimulate innovation and adaptation, is restricted.

Outside Oxford and Cambridge, lay members in the English universities are allowed to help with buildings and finance and staff welfare, all matters on which their advice is greatly appreciated, but it is assumed (without the slightest justification) that they would be less helpful in discussions of what society expects of the education of graduates. It is time that we brought the expert lay element into the discussion of academic matters: this might lead to a unicameral system, which does not appear to have been totally disastrous when tried in Toronto, but those who regard this as too dangerous an innovation might perhaps consider putting at least as many lay members on Senate as there are academic members on council.

To sum up, then: to maintain academic quality and relevance in an aging community which no longer has the stimulus of growth will require a deliberate exposure to outside stimuli and a deliberate encouragement and development of new ideas to the point of effective application. I offer as a motto to hang on the walls of the new Vice-Chancellors of the 1980s—NEVER PLAY IT SAFE.

The author is vice-chancellor of Lancaster University.

BOOKS

A new voice for the anti-positivist chorus

Meaning and the Moral Sciences
by Hilary Putnam
Routledge and Kegan Paul, £4.95
ISBN 0 7100 8754 3

This, as one would expect of Hilary Putnam, is a bright and bracing book. It consists of Professor Putnam's John Locke lectures, given at Oxford in 1976, plus three separate papers, two of them previously published. The book is written for philosophers but it will undoubtedly command an audience among social scientists also. While the primary concern is with epistemological realism, this doctrine is quickly connected with issues in the philosophy of social science and the philosophy of literature.

Since it is not easy to summarize or assess such a book chapter by chapter I propose to break down what Putnam has to say into a number of theses. The exercise is hazardous but it may help to give readers an idea of what is in store for them.

1. Realism is an empirical theory about the status of truth claims

As a picture of scientific theory realism is usually contrasted, on the one side, with the instrumentalist view that such theory is only of operational significance, not making any truth claims, and on the other side with the phenomenalist view that such theory makes truth claims all right but only in respect of observable reality. Within this frame of opposition, realism is seen to represent scientific theory as making truth claims about observable and perhaps unobservable things.

Putnam thinks that historically the instrumentalist and phenomenalist programmes for reducing the meaning of scientific propositions have failed and that realism, the "natural" view of scientific theory, remains so far undefeated. But he here introduces a more subtle "intuitionistic" form of anti-realism, according to which all that "truth" means is "provability from accepted postulates". He shows that this doctrine can help itself to the formal concept of truth as defined in semantics and the questions then are: what precisely distinguishes it from realism, and, how is argument to be joined between the two doctrines.

The second question is considered in the following three theses. As to the first question, the answer is: the fact that the realist claims and the "intuitionist" denies that a statement can be false even though it follows from our theory. This far Putnam is the core of realism; a contingent claim in the defence of which we must mainly consult empirical facts.

Within the lectures proper Putnam has little more to say about the empirical nature of his realism but in "Realism and Reason", a paper included in the volume, he distinguishes such realism from a metaphysical form of the doctrine. The paper, as he notes, represents a refinement in his thinking but it is not, I think, a major revision. Metaphysical realism holds that it is conceivable that a theory should be ideal in every epistemological respect and yet be false. This possibility Putnam regards as incoherent while defending the less radical possibility associated with empirical realism.

2. The source of realism is a causal theory of knowledge

If it is granted, as it surely must be, that realism is the view we naturally take of truth claims both in common sense and in science then we may wonder why we do so. The reason, Putnam says, is that we hold by the empirical belief that knowledge is the result, at least in most cases, of a causal interaction between knower and known but that the interaction is of such a sort as to allow of unrecognized error. Such a belief is incompatible with an "intuitionistic" redefinition of truth, for it entails that a sentence might be provable from accepted postulates without being true. Thus the question as to how we can argue the realist case against anti-realism passes into the question of how we can defend a causal view of knowledge.

3. This theory of knowledge recommends itself as explaining the convergence of scientific theory and the contribution of language use

There are at least two important facts which Putnam believes that the causal theory of knowledge, and the associated theory of truth, explains. The first is the fact that scientific theories converge, earlier theories being depicted as limiting cases of later. Such convergence is not surprising if the development of theory occurs under the causal influence of reality and if theory seeks to say how reality is. The second fact explained is that language-using enables us so to intervene in the world as generally to achieve our goals. If in using language we were not seeking to represent how things were, in causal response to those things themselves, then this, to say the least, would be a fortuitous result.

This second explanatory function is discussed in "Reference and Understanding", a paper written in the volume. In that paper Putnam defers to anti-realism to the extent of allowing that what we understand in using sentences is not necessarily their truth content, it may only be the appropriate conditions of their use. He then naturally insists that the realist assertion that there is such a truth content is explanatory of why language use should contribute to the success of our non-linguistic behaviour.

4. The convergence of scientific theory argues once we apply benefit of doubt in interpretation

It may be said that the work of Kuhn and Feyerabend has shown that scientific theory does not converge, since significantly different theories are incommensurable. One argument has it that since for example Bohr's early description of the electron was different from his later, the two theories in question mean different things by "electron" and are not really in conflict. Against this Putnam says, surely plausibly, that the appropriate translation strategy in discussing the earlier from the point of view of the later theory would be to give benefit of doubt and take the earlier theory to be referring to the electron of the later although getting things wrong about it. This after all is the strategy pursued by Bohr himself.

We may comment that Putnam actually makes a stronger claim in many of his writings, a claim which he still avows here but makes no necessary use of. This is the essentialist thesis, not just that some of a theorist's beliefs may be ignored in assigning referents to his terms (the principle used above) but that the terms denoting natural essences have their reference determined independently of the beliefs of those who use them. It is not clear that Putnam realizes that the weaker claim is sufficient for his purposes; a pity since the stronger one is much less well-founded.

5. Interpretation involves presenting what the language-user does as rationally explicable.

The topic of interpretation is of intrinsic interest to Putnam and, as we shall see, takes him into the philosophy of social science. The view which he adopts, though without much argument, is that in interpreting someone's utterances we should so construe the terms he uses that, assuming he has psychologically plausible wants, it becomes intelligible that he should say the things he says and, supposing that he believes those things, that he should do the things he does. This principle of interpretation, sometimes described as maximizing the humanity of the speaker, is accepted in slightly varying forms by a great number of contemporary philosophers. It means that interpreting utterances cannot be isolated from the more general enterprise of making sense of the speaker's performances, verbal and non-verbal. An example of the principle at work is, presumably, the translation from within Bohr's mature theory of his early term "electron" as referring to the referent of his later counterpart. Giving benefit of doubt in such a case is one way of maximizing humanity.

6. Explanation is interest-relative and introduces indeterminacy to the interpretative procedure

At this point Putnam makes contact with Quine, finding reason for acknowledging the indeterminacy of translation. The indeterminacy thesis has it that with respect to two or more pragmatically successful translation schemes there may be no reason to think that at most one is right: it may be equally correct, so far as the facts go, to map after one pattern or another from the translated into the translating language. Putnam finds reason for believing this in the fact that, depending on what our interests are, we may wish to explain a speaker's total performance, and thereby interpret his utterances, in one way or another. "Why did so-and-so rob banks?" There is no right and wrong to distinguish the answer which would be given to a priest from that which a known thief might elicit. And similarly there may be no issue of objective right or wrong to mark off one pattern of interpretative explanation from another. There may be no fact of the matter as to whether the speaker in any given utterance means what the one scheme has him mean or what the other has him mean.

It must be noted that this argument, if it is found persuasive, lets in much less indeterminacy than that which Quine, since he is plausible that human beings share a basic set of interests sufficient to select a single appropriate pattern of explanation. Indeterminacy would arise in respect of alternative patterns which only Martians could find appealing. An essential difference between Putnam and Quine on the topic is that Putnam countenances not just verbal behaviour as appropriate evidence but also nonverbal. So long as the explanatory interests of interpreters are roughly similar, he thinks that there should be enough facts around to rule out most one of any rival set of interpretations as correct. By contrast, Quine thinks that the facts to which rival translation schemes have to answer are so sparse, being restricted to facts of verbal response, that indeterminacy is rife.

7. Interpretation cannot be made scientifically precise: it represents a form of practical knowledge

Putnam suggests that in practice translation is made easier by the assumption of shared interests, between speaker and interpreter. But might these interests not be rigorously defined so as to render the translation procedure exact and entirely mechanical? They could be defined in this way, he says, only if we had a general explanatory model of the human being, something which we cannot expect to have in any foreseeable future and something perhaps which may forever escape us for reason of the complexity required. Thus, at least so far as our epoch goes, interpretation cannot be reduced to canonical scientific form.

The knowledge which we develop and exemplify in interpretation is according to Putnam a form of practical knowledge: it is embodied in a skill which cannot be represented in theoretical form. The reason the skill escapes theoretical representation is that the factors taken into account in the operation of the skill are just too complex for us to list. As an example of practical knowledge Putnam quotes the knowledge of Hebrew/English bilinguals that *shemen* means oil, the implied challenge being that we cannot spell out theoretically premises from which the bilinguals might be said to derive that information.

8. In this respect interpretation is typical of the knowledge of beings available through science

In interpretation, as it is said to be, is involved in all ascriptions of common sense or social science and then such understanding or explanation as is made scientifically precise. The lesson, drawn with some caution by Putnam, is that the scientific conception of the study of persons is radically mistaken. We are wrong to the idea that, contrary to positivists have taught, empathetic intuition must serve in an important role than that of generating hypotheses. We must rely on homely skills not only for the setting up ideas but also, more crucially, for checking and assessing them.

Putnam goes so far in this direction that he has no wish to see all trace of so-called scientific method from social sciences. Whatever he does want to see, and it is a result which will be equally shocking to the scientistic mentality, is that social science sounds on all four with the historical efforts of historians and literary critics. Like them it involves intelligence and imagination, ideally, but like them it is subject to the vagaries and frailties of imperfectly controlled insight.

Putnam's is a new voice in the chorus of dissenters from the positivist image of social science. The impression of this book is that it represents a first attempt at working out the ideas involved. Statements used are often below the standard one would expect from a fine thinker. For example the argument is given under the heading "It seems to depend on a distinction about "charity", the alternative being "humanity" which some philosophers have canvassed as a principle of interpretation; and this despite the fact that there are precisely no fewer than "humanity" in the text. Equally, the errors reached within the brackets of them vague and embarrassingly most interesting illustration occurs in a paper on "Logic, Science and Perfection" in the volume where apparently for reasons relating to censorship, comes close to saying that social science must be a critical destiny such as that of Mahatma Gandhi assigns to it.

But even if at the least confusion Putnam is an engaging and stimulating thinker. The debate in scientism in the study of human beings will be given a new edge by the appearance of this book and its earlier sections, and in the three appended papers, will prove difficult of access to scientists without a philosophical training. I suspect however such difficulty will not be an absolute obstacle and that the book will attain a position within philosophy of social science which will make it required reading for any aspiring methodologist.

Phillip Pettit

Standing firm against the Chomskyan torrents

Chomsky (second edition)
by John Lyons
Harvester Press, £5.50
ISBN 0 85527 690 8

Semantics 2
by John Lyons
Cambridge University Press, £15.00 and £4.95
ISBN 0 521 21560 9 and 29186 0

Many of those swept away by the great torrent of Chomskyan linguistics now find themselves, beached in remote inlets, or treading water while watching the sky for signs of any weather that might carry them back into the theoretical mainstream. Not everyone was swept away; some stood firm on traditional ground, while others built and shored up positions that can now be seen more clearly as the waters recede.

John Lyons first obtained a wide audience with his *Introduction to Theoretical Linguistics* (1968). It was in some ways a traditional work; sensitive to empirical studies, to broad areas of agreement rather than disputes, and to distinctions made within many theoretical frameworks. It was encyclopaedic in scope and, above all, lucid and reliable. All this made the book stand out because, along with the excitement of the Chomskyan years, much linguistics had shrunk from considerations of a highly diverse aspect of human culture to a private squabble in which abtruse points were settled by loud claim about the primacy of one's own Brooklyn dialect.

He then wrote *Chomsky* for the Fontana Modern Masters series, a brief introduction to transformational grammar (TG) and the principles underlying it. At the time of the first edition (1970) it must have seemed that its emphasis was not where Chomskyans would have put it, for very little of the book was devoted to detailed application of the notation. This new hardback edition has been brought up to date with a chapter on the counter-Chomsky trends that have emerged since 1970. Lyons has enlarged other chapters and added an appendix that does give more detail of the formalism. The book remains an excellent introduction, and what stands out is how right his original judgment was—that what will prove of lasting value in Chomsky's work will almost certainly not be its technical details.

Volume two of Lyons's monumental *Semantics*—begun, he tells us, as "a fairly short one-volume introduction" — is in some ways a return to the encyclopaedic style of the 1968 *Introduction*. The two volumes can be read independently. The first treats of logic in the narrow sense, of semiotics, and of structural semantics. The second is "concerned with semantics from a fairly narrowly linguistic point of view", and yields sections on the relations of semantics and grammar, the structure of the lexicon, speech acts, deixis and modality.

This description of the second volume is correct in that TG does provide much of the vocabulary for the first two topics in the list, but the book as a whole does not seem to me to support his claim that "we are assuming throughout this work the validity of transformational grammar". No use is made of its formalism and much space is given to supporting philosophical positions alien to TG, such as the truth-condition view of meaning. More important, the most interesting and original sections cut at the root of TG, as when Lyons presents the Firthian view that *conjoinability* (of one form, such as "I goes home" to another, "I went home") is the intuitive basis of ungrammaticality; that is, a partial relation, rather than the decidable property of sentences required by TG. It may be that Lyons assumes TG only in the sense that he declines to base the book on what would be, for him, an intellectually unprofitable confrontation.

When whole schools like generative semantics have to be discussed in five pages, no great depth can be reached. Even in that space one can find points to dispute, as when Lyons dismisses semantic representations, built from sense components, on the ground that they have not explained such notions as synonymy and entailment. But, no explanations of those concepts, satisfactory or not, have ever been given in any other terms (except for behavioural explanations, which Lyons, himself discounts in the first one). Secondly, those unanalysed sense components are not assumed different from others like *pour* and *eat* in action and entity which Lyons likewise accepts as ontological underpinnings for parts of speech.

But these are small points compared with the wealth of the book and the skill with which its parts are integrated. The most rewarding sections are particularly the discussions on parts of speech, deixis, speech acts and locality. It makes clear that a Lyons era of the linguistic universe is coming into focus, by mature reflection on a great deal of material rather than in the blinding flash-in-the-pan manner that has been the mode of enlightenment in much of linguistics. Yet he has not surrendered that vital quality he has always attributes to Firth, to remain suspicious of what purported to be systematic and self-satisfied theory of the structure of language".

Yorick Wilks

BOOKS

The hard task of justifying idleness

Towards the Comprehensive University
by Robin Pedley
Macmillan, £7.95 and £1.95
ISBN 0 333 23348 4 and 23349 2

When it comes to educational policy, Professor Pedley has always had his nose in the right, i e left, direction. He wants a society of good and knowledgeable citizens. To this end he infers that we should put ourselves to school as early as possible for as long as possible, and follow a curriculum which will make us all full participants in an elevated common culture of the arts, sciences, and social studies. Professor Pedley is grateful to the past for his own education out of a provincial obscurity and appears to see no ultimate limit to the power of organized education as a means of our enlightened improvement. Looking back he is justly proud of his own indefatigable labours in developing comprehensive primary and secondary schooling.

Now, he argues, we must go on *Towards the Comprehensive University*. He expects, in a prefatory note, that the majority of his colleagues will dissent from his proposals and, in this at least, I am sure he is right. But let us first look at his plan.

Pedley sets out a programme for England and Wales in the 1980s covering all forms of education after the statutory school leaving age of 16. He assumes, realistically, that the education of the 16-18 year olds will go on in the three forms already established—schools, sixth-form colleges, and further education colleges. For this age group he wants the Government to provide a framework with six main features:

- common regulations regardless of type of institutions;
- incorporation of full and part-time study in all three types of institution;
- mandatory student grants;
- development of part-time employment and compulsory release by employers of young people to take courses of their own choosing without penalty;
- equality between institutions in money, staffing, and working conditions;
- monitoring of the schools and colleges coordinated by the National Foundation for Educational Research.

Many of those responsible for both education and work will welcome here a bold and simple proposal for improvement in a dark and disorganized stage of life in modern Britain. Energetically pursued, such a programme could give us the basis for a serious attack on what is now widely regarded as a disastrous structural feature of the modern economy—youth unemployment with its high economic, social, and psychological costs, and its cruel inequity. Pedley does not work out the budgetary implications. I suspect that, if there were a Gosta Rehn in England, he could show that taking into account the costs of unemployment and the social services concerned with 16 to 18-year-olds, and allowing too for the fall in fertility since 1965, an ambitious programme of this kind might be a reasonable financial proposition.

So far so good. The Pedley programme would amount to a further consolidation of comprehensive secondary schooling, the honouring of promises made to adolescents since the 1918 Education Act, and, above all, a coherent set of national arrangements for the passage from school to work for the vast majority. Yet none of this need imply the idea of a comprehensive university. What it would do is to provide a more universal and equitable base for education beyond the age of 18. In fact this is what Pedley has in mind. He would set up an integrated system of adult education into which every form of college of adult education—universities, polytechnics, colleges of education, evening institutes, would be incorporated. These comprehensive universities, he estimates, would number about 100 with, on average, about 8,000 full-time and 9,000 part-time students, drawn from a local population of half a million. Their catchment areas would be local and their governance through a Council on which was represented staff, students, local industry, the teaching profession, and the local education authority.

The trend towards national recruitment in universities and polytechnics of the past generation would be reversed, there would be no need for further wrangling over regional solutions, and there would be a single enlarged University Grants Committee responsible for the whole post-18 system, replacing the present mess of central and local financing for all the different types of institution.

Again, a simple logic emerges, and its attractions are obvious. The obstacles to its realization are no less obvious, and here the shortcomings of the book are considerable. In the first place, Pedley asserts rather than demonstrates the connection between education and economic efficiency as if the critical literature of the last decade could be ignored or dismissed as "black paper" prejudice. But the simple reassertion of the received doctrines of the 1950s concerning education as the engine of economic growth will not persuade Shirley Williams, let alone Mrs Thatcher or Sir Keith Joseph. Even the much stronger argument for education as an indispensable aid for forming and maintaining a citizenry capable of participating in a modern democracy has to be carefully argued and requires an effort of immensely greater scope than Pedley has permitted himself in this slim volume.

In the long run universities in particular, and adult education in general, require the difficult justification of idleness. We have lived through an interlude of argument from strictly utilities which have now been properly called in question. Just as Adam Smith remarked in the eighteenth century that the word "scholar" had been synonymous with "beggar" in the mediaeval origins of the European university, so we now have to convince politicians and voters that the time has come when it is practicable as well as desirable to embrace a kind of Galbraithian doctrine of democratizing idleness in a rich society. Pedley has not elaborated such an argument. Nor has he faced the more serious defence of the traditional idea of the university by such writers as Robert Nisbet or Kenneth Minogue. Minogue, for example, has argued that if we accept the functionalist terminology (which Pedley freely uses in describing his fundamental aims) we beg the whole question of what a university ought to be and worse, we subject the university to alien interests and purposes. I do not agree with Minogue; but it is not necessary to discard the functionalist metaphor in which social thought is soaked to agree none the less that its pejorative uses are legion. Moreover, the language of "social needs" is all the more dangerous when it invokes desirable practicalities, such as equality of opportunity to be clever, or the application of cleverness for efficient industrial production.

These arguments, as well as those for the university as essentially a research institution as advocated in Thorstein Veblen's classic work, need to be answered before a practical blueprint is put before us. So, although sympathies are wholeheartedly with Pedley's intention, I fear that much wider and deeper argument will be needed if our colleagues are to be persuaded.

A. H. Halsey

Taking disciplinary action

Academic Departments: problems, variations and alternatives
by Dean E. McHenry and associates
Jossey-Bass, £10.50
ISBN 0 87589 307 4

Dean E. McHenry is the chancellor emeritus and professor of comparative government emeritus of the University of California, Santa Cruz. We are told that he now farms with his wife June in the Santa Cruz mountains: very nice. His associates are, in this instance, a group of deans, provosts, principals, vice-chancellors, and presidents of American colleges and universities. One associate is only a professor and one is now principal of an English university.

The book is heavy with administrative and executive experience acquired in some very eminent universities. It all leads the reader to expect a definitive treatment of a difficult subject. The reader will be disappointed for the book is superficial with a number of important flaws. At £10.50 it is aimed at institutions where it will sit on library shelves.

The book is in three sections; part one deals with departmentalism and the essays include a defence and a critique of its shortcomings. Part two contains five essays, four of which are descriptive case studies of variations and alternatives to the departmental system in American universities. The fifth essay contains the whole of the British experience. Although well presented and containing descriptions of Oxford, Cambridge, Keele, Sussex, East Anglia, Kent, Lancaster and York, the essay looks a little unbalanced when set against the case of Evergreen State College. In fact the exclusion of the polytechnics and colleges of education from the British experience makes the structural imbalance even more marked.

The final section adds little to the volume. The editor claims that the two essays synthesize the themes of earlier chapters but in fact the earlier chapters are so varied and uneven, with no unifying analytic framework, that no synthesis is possible. The piece by J. Douglas Brown introduces a new theme of leadership and Dean McHenry's concluding chapter states in summary form many of the important points of earlier chapters.

The most fundamental confusion occurs on the basic question of what is a department? The answer to this question is so self-evident to the writers of the early chapters that they ignore the problem of clarification and proceed on a set of commonsense notions that shift in meaning both within and between chapters. Martin Trow comes closest to teasing out the conundrum; departments are based on disciplines and disciplines "constitute a kind of moral community, centering on the powerful norms implicit in the canons of verification and in our scholarly and scientific methods and procedures"; but many disciplines do not contain this consensus.

In addition, some disciplines are recognized as such in some universities and some countries and not in others. Is education a discipline? Is geography a discipline? Is psychology a discipline or are experimental psychology, social psychology and developmental psychology different disciplines? Perhaps all are included in the disciplines of social relations or social science? How much variation in the "powerful norms" can occur before we have a multi-disciplinary approach within a department? Surely an analytical chapter with an examination of the remarkably varied pursuits that pass as discipline within universities should have guided this first section?

It is cheerful for me to remain on this critical plane throughout the review. The book was clearly intended for an American audience and the writers of the case studies could depend on their cultural shorthand making sense in this context. Much of the apparent unevenness could derive from this. It is useful for academics to know what is going on in other institutions especially in an area as fundamental as the academic organization of universities. The authors point to the limitations of organization and structure; and point to the importance of groups of academics working together in mutual understanding, whether in departments or on another basis. Some of the possible alternatives are described and the problem-based departments of Green Bay can be compared with the school organization at Hampshire College. The matrix organization at Santa Cruz does seem to balance discipline and college in creative tension. The book gives a balanced presentation of departmentalism and the alternatives. However, if this book accurately represents the state of knowledge in this field then it points to the need for a more systematic and disciplined study of the academic organization of our institutions of higher education.

Colin Lacey

A landmark in educational thinking

The Process of Education
by Jerome Bruner
Harvard University Press, £4.20 and £1.60
ISBN 0 674 71002 9 and 71001 0

To be invited to review a book 18 years after its publication is an unusual request, but then this is an unusual book. It is based upon a meeting held in 1959 the purpose of which was to examine the fundamental processes involved in giving young students "... a sense of the substance and method of science".

There is an air of confidence about the book, dissatisfaction may have been felt in 1959 but the problems were tractable and we were "on the way". Now almost 20 years later, when the British Prime Minister has judged it necessary to open "the great debate on education", crisis might be a more appropriate word to use about the state of education. Why is this? Did this group fail in their task, have circumstance: changed so very much, can it be that their message was ignored? The answer probably lies partly in all of these and more.

In 91 pages and six chapters Professor Bruner lays out what he saw as the principle features of 10 days of discussions among 30 distinguished scientists, scholars and educators. The introduction raises many issues; what shall we teach, what kinds of research would help in the design of curricula, what of the transfer of training, what does science involve and how does it differ from writing poetry? And so the questions tumble out, one after the other.

The second chapter, which contains the main theme, emphasizes the importance of structure in knowledge and particularly in science, priniples can be extracted and regularities discerned. In science there are many examples of where the structure of our knowledge and the utility of that structure are readily demonstrable, think of the impact of the theory of evolution on biology. It might be argued, and correctly I think, that appreciating the importance of structure was not a blinding flash of insight on the part of the conference. A more significant question is perhaps how best to *use* structure in education. How can one best teach a child to organize his knowledge and link it to intellectual *skills*. The book hints at this issue but offers no prescription.

The third chapter opens with a hypothesis which may be surprising to many and which is certainly been misunderstood by some. Bruner asserts that any subject can be taught in some intellectually honest fashion to any child at any stage of development. One might ask how can one teach the calculus to a six year old? But Bruner's point is more subtle. By using the child's existing modes of thinking, by matching the problem to the learner's capacities a step can be made towards some more distant symbolic process.

From a brief outline of Piaget's stages of cognitive growth Bruner goes on to consider the notion of readiness for learning and points to the need for devising means of teaching which are within the capabilities of the child's level of cognitive development. The basic principles involved in mathematics are accessible to young children given that they are presented in a manner which the child can understand and handle himself. From a consideration of mathematics Bruner goes on to suggest that a comparable approach can be taken to the teaching of the humanities and literature. He argues persuasively but I am not wholly convinced. Occasionally we hear of child prodigies in mathematics, music and chess but I have not heard of a child prodigy in history, politics or poetry; perhaps there is something fundamentally different about the nature of knowlege in mathematics and science compared to literature and the social sciences.

Chapter four deals with intuitive and analytic thinking, both are clearly important but has the former been sacrificed for the latter in our educational system? The answer is probably, and a good case is made out for encouraging children to think intuitively, even though this involves risks. In many respects this chapter is the most exciting in the book and it merits careful reading, rereading and reflection.

Chapter five considers motives for learning, there are many and they may often be idiosyncratic. The notion that teaching like the army must proceed at the speed of the average individual is rightly questioned. The task is seen as one of devising materials which challenge the outstanding student while not destroying the confidence of the less able. The British school system with its streaming and setting tries to achieve this in one way but falls far short. For all the protestations of flexibility in relation to individual development how many children move up three h the sets? Precious few I'll be bound.

Our failure to think hard about the process of education is nowhere more evident than in our failure to undertake a deep and searching examination of motivation in education. Bruner asserts (in 1960 remember) that admiration for and interest in scholarship is likely to increase faster than expected. At first sight that might seem to have been the case in Britain. In the course of the last 18 years the school system has been extensively revised, and there are more students in our universities than ever before. Plainly there has been something of a political victory for education but is this superficial? Does our society really care for the values that we expect teachers to inculcate into the young? There is I think something of a crisis of standard at work, what we expect from the educational system, integrity, skill, intellectual honesty, compassion is not so self-evident in British society as the decade comes to a close.

The final chapter considers aids to teaching, their importance and potential power is clearly underlined but the illusion that these supplant and replace good teachers and an analysis of our goals and methods is not fostered.

In his 1977 preface Bruner admits to having continued to brood on the issues which are raised. These reflections are themselves most interesting; perhaps the axiomatic structure of the humanities may not be so readily uncovered, the political implications and underpinning of education give pause for thought, the structural aspects of education are perhaps giving way to functional and motivational considerations, and the thought that a curriculum is more for teachers than for pupils is floated.

In 1960 when it was originally published this little book was a landmark in our thinking about education, and it still is. This says much for the book but rather less for the progress which we have made over the past 18 years. The book is beautifully, beguilingly written and the ideas, fully formed or half formed, are lucidly expressed. Let us hope that Jerome Bruner may be able to call together another group 20 years on to continue the task so well begun at Woods Hole in 1959.

Kevin Connolly

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Basil Blackwell Publisher

5 Alfred Street, Oxford

BOOKS

Peace offerings

The Correspondence of Isaac Newton, Volume 7
edited by A. R. Hall and L. Tilling
Cambridge University Press, £30.00
ISBN 0 521 08722 8

The last nine years of Newton's life were marked by increasing physical discomfort and illness; so much so that at 83, in 1725, he moved, as Stirling says, "a little way off in the country. I go frequently to see him, and find him extremely kind and serviceable in everything I desire but he is much failed and not able to do as he has done".

Although the creative days were long past, and it turned out that the Mint no longer needed so much attention (though he delegated very little of his responsibility there), the clarity of his thought did not suffer. The letters of his closing years differ in frequency more than lucidity from the earlier ones. So the pleasure at the termination of this great series of Newton correspondence is not greatly marred by sadness at the effect of passing years. This volume, like its predecessors, is splendidly produced and edited most fully; the three Hall and Tilling volumes ably match the earlier Turnbull and Scott ones.

Less than a third of the letters of these years are by Newton, and since many of these are on Mint business it is not surprising that there is little of direct scientific interest here. These years did, it is true, see Pemberton's preparation of the third edition of the *Principia* but the corrected copy of the second edition from which he worked is lost, as are any letters which Newton may have written. And, of course, Pemberton was not a Cotes, so his own contribution to the editing was not great. Moreover, when he did make more radical suggestions, Newton usually rejected them.

The most interesting parts of the Pemberton letters deal with such points of detail as the faults in the first two editions, like the construction: from three points to draw to a fourth point that is not given three right lines whose differences are given. Here Newton had given a solution (using the properties of hyperbolae) which constructed the point by the intersection of straight lines. But this cannot be right, since a simple analysis shows the problem to have two solutions and in the later edition Newton does take Pemberton's advice (in part) and finds the points as the intersections of a line and a circle of Appollonius.

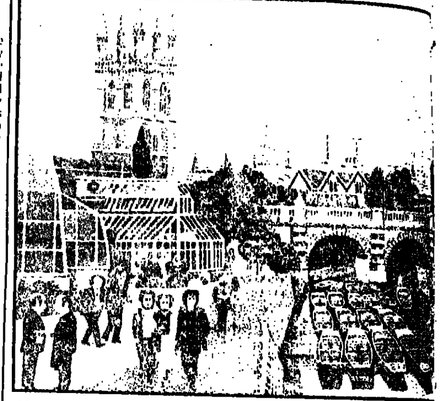
For the historian of science the best series of letters here are those with Varignon who sought by every means in his power to act as an intermediary between Newton and Johann Bernoulli, to bring to an end the dreary and futile Leibnitz controversy. Varignon was a member of the Academie Royale des Sciences, and a professor at the Collège de France; and he remained on friendly terms with Newton while pushing his *Traite d'Optique* through the Paris press. Though it is only fair to add that, in his long correspondence with Bernoulli, he had been quite capable of giving away confidential information which he had had from de Moivre (who acted as Newton's spokesman). None the less he seems to have had only one object in all this; to bring the whole foolish argument to an end and to reconcile Newton and Bernoulli. It is not clear why or when he first formed this intention. Newton was none too enthusiastic, remembering his like experiences with Conti: "I did it with reluctancy. And by the Letters which Mr Leibnitz wherewpon wrote to several at Court I found that he was at the bottom of the designe. It is now about 40 years since I left off all correspondence by Letters about Mathematicks & Philosophy . . ." (the last phrase described by the editors, kind as ever to Newton, as a gross exaggeration).

The upshot of the first part of the correspondence, however, was that Newton sent Varignon three copies of the *Opticks*. Varignon had the bright idea of sending one of these on to Bernoulli, to be regarded as a peace offering from Newton. Having done this, he then told Newton, who retorted (in a kind but firm fashion) by retailing his main grievance against Bernoulli: that he (rightly) suspected him of being the "eminent mathematician" cited in the *Charta Volans*. Now Bernoulli, though at fault there, had himself enough to complain of in suspecting Newton's direct influence, if not his own hand in the appendix to Raphson's *History of Fluxions* and, more particularly, in the various activities of the egregious John Keill (though the adjective is meant to refer only to his intellectual behaviour. Bernoulli in 1719 was less restrained "a certain individual of Scottish race who has become no less notorious among his own people for his immorality than odium everywhere to foreigners."). The gift had the desired effect; a glowing letter of thanks to Newton including a false denial of any hand in the *Charta Volans*. And this in turn produced a reply from Newton, still retchy about the past comments on the mistakes in the early editions of the *Principia*. It was not the reconciliation hoped for; but Varignon was tireless. More difficulties and misunderstandings arose, but he continued to act the go-between until his death in 1722. The affair then just died out, unsettled.

The editors conclude that the letters in this volume are more in keeping with de Morgan's unfavourable Newton than the figure of the Victorian biographers. "Sometimes", they say, "we see him as a cantankerous old man, unpredictable in his reaction, whose memory is blurred and whose faculties are dulled. We may go further, and accuse Newton of prevarication, of falsehood even, in his dealings with Johann Bernoulli. With Coste he was tactless; with Cavalier dilatory; to the majority of his correspondents unresponsive. In not one of his extant letters does he show humour or affection, or forbearance of the failings of others, unless in his allusion to his grand-niece Kitty."

The volume includes also some 50 or so undated letters and 100 pages of additions and corrections to earlier volumes, together with some details of Newton's genealogy.

C. W. Kilmister



Magdalen Bridge, Oxford, by Alfred Daniels, is one of many delightful illustrations from Twentieth Century British Naive and Primitive artists by Eric Lister and Sheldon Williams, published by Astragal Books at £8.95.

Drawing the line

Boolean-Valued Models and Independence Proofs in Set Theory
by J. L. Bell
Oxford University Press, £5.95
ISBN 0 19 853163 0

No formal axiomatic theory can capture all mathematical truths. Mathematicians have known this ever since Gödel proved his famous incompleteness theorems in the early 1930s. When Gödel's methods are applied to a simple system, like that of axiomatic set theory, certain formally undecidable propositions are obtained, propositions which, though expressible in the language of the theory, are neither provable nor refutable from its axioms. But these propositions are, in a sense, mathematically unnatural. They would not come under consideration in the ordinary course of events.

In 1963, Paul Cohen gave the first, and still the most important, example of a natural problem which cannot be settled on the basis of the currently accepted axioms of set theory. The problem in question is the continuum problem: how many points are there on a line? Some of the greatest mathematicians of the past 100 years, Cantor and Hilbert among them, have tried, unsuccessfully, to answer this question. Cohen has given us the reason for all of these failures.

Bell's book presents Cohen's results but proves them using the method of Boolean-valued models developed by Solovay, Scott and Vopenka. The book is intended primarily as a textbook for a postgraduate or advanced undergraduate course. But the general mathematical reader who has some knowledge of mathematical logic and who wants to know what Cohen's results are and methods are all about will find it, particularly the exposition in chapters one and two, most helpful. Some knowledge of Boolean algebra and the fundamentals of the Zermelo-Fraenkel axioms would be useful here. Familiarity with the notion of a constructible set would also help, but is not essential since Bell's primary interest is in the continuum problem.

The first two chapters examine the heart of the book. There a general method of Boolean-valued models and forcing is expounded and the independence of the continuum hypothesis (among other things) is established. The connection between this method and the original method of generic extensions originally used by Cohen is spelled out lucidly and in detail in what is, perhaps, the most original and interesting part of Bell's exposition. He also deals with the independence of the axiom of choice, a result which is rather more specialist in topic and of cardinal collapsing.

The standard of exposition is high. Bell is careful to motivate his basic definitions and to lay out the strategies underlying the more complicated proofs. There are a large number of problems included in the text. These range from relatively simple straightforward examples of systematic expositions of important parts of the theory (for example, the Lévy-Solovay results on the independence of the continuum hypothesis from the existence of measurable cardinals and the existence of a measurable cardinal).

Finally the book contains a special bonus in the form of an extensive foreword by Dana Scott. He gives a brief history of the subject treated in the text and speculates on its foundational significance. A well-written, well-presented, moderately priced book. It is an excellent addition to a useful and distinguished series.

John Mayberry

Reassessing a prophet of the computer age

The Mathematical Work of Charles Babbage
by J. M. Dubbey
Cambridge University Press, £12.50
ISBN 0 521 21649 4

Charles Babbage died in 1871 in his eightieth year (but see later). For the next 75 years he was largely forgotten; then, with the advent of the electronic computer, he was acclaimed as a major prophet of the new computer age. Now Dr Dubbey proposes a reassessment based on the proposition that Babbage was primarily a mathematician.

Babbage was born on December 26, 1791 or 1792, at either London or Totnes—there is some doubt on both counts. He entered Trinity College in 1810; he took his BA and a wife in 1814. In 1812 he founded the Analytical Society which was so successful in reforming the teaching of mathematics at Cambridge. In 1815 he moved to fashionable London where he lived for the rest of his life—including his 11 years as a Cambridge professor.

Babbage's mathematical researches were compressed into eight years; from 1813 to 1821, by which time he had embarked on what proved to be his life work — the invention, design and partial manufacture of his calculating engines. His mathematical output consisted of five books (two unpublished) and 19 papers and articles. His major invention was the calculus of functions; the main ideas were presented in two long papers in the *Philosophical Transactions*, 1815 and 1816. Babbage regarded the subject as the most general branch of mathematics then existing. Its flavour may perhaps be conveyed by quoting his first problem. This is to find the general function $f(x)$ which satisfies the relation $f(x) = f[p(x)]$, where $p(x)$ is a given function. Thus if $p(x) = -x$, we obtain $f(x) = g(x^2)$, where g is any function. From such simple beginnings, Babbage is able, by ingenious techniques and generalizations, to develop a systematic calculus capable of solving a wide variety of problems.

"The Philosophy of Analysis" is the title of a set of unpublished essays in which Babbage attempts, largely by means of examples, to examine how mathematical discoveries are actually made. Although the essays are of uneven quality, some are highly original.

Dr Dubbey also has chapters on "British mathematics, 1800-1830", "The Analytical Society" and "Notation". His longest chapter gives a fascinating account of Babbage and his computers.

How should we assess Babbage's contribution to mathematics? The direct impact of his researches was negligible; his most important work was largely forgotten. His influence must be sought rather in terms of reform and organization. Among much else, he played a notable part in bringing British mathematics out of its stultifying national isolation. Although Babbage's mathematical life ended at the age of 30, there after he applied his mathematical training to the solution of a wide variety of non-mathematical problems. To some, indeed, he is the founding father, not only of the computer, but of operational research and systems analysis as well.

It is a pleasure to commend this excellent book. We are much indebted to Dr Dubbey for his scholarly critique of the mathematical activities of this versatile genius. The book's printing and format maintain the high standards we have come to expect of its publisher.

Stuart Hollingdale

BOOKS

Unravelling the fictional webs of a Latin American master

Paper Tigers: the Ideal Fictions of Jorge Luis Borges
by John Sturrock
Clarendon Press: Oxford University Press, £5.95
ISBN 0 19 815746 0

The Emergence of the Latin American Novel
by Gordon Brotherston
Cambridge University Press, £6.50
ISBN 0 521 21478 5

These two studies have little in common. Mr Sturrock provides an intensive argument about one writer, Jorge Luis Borges, concentrating on two collections of what Borges calls his "fictions" (*Fictions* and *The Aleph*), while Dr Brotherston envisages Latin American literature on a grand scale, attempting to characterize the Latin American novel as a continental phenomenon. Comparing the two, there is little doubt that Sturrock's outlook yields greater benefits.

In his first chapter, Brotherston presents the development of the Latin American novel, which is supposedly one of progression, largely without external influences, from the early assertion of the "civilized" European values of the implanted city to a contemporary interest in the autochthonous. Brotherston would illustrate the initial urban emphasis, and incidentally try to present as "Latin American" the disparate traditions of Brazil and Spanish America, with the Argentinian D. F. Sarmiento's *Facundo: Civilization and Barbarism* (1845) and the Brazilian Euclides da Cunha's *Rebellion in the Backlands* (1902), despite the many years between the two. However, Brotherston seems unaware that in no way does Cunha see the city as a repository of civilization; and he understates Sarmiento's obvious fascination with the "savages".

Subsequently, writers are said to begin to entertain doubts about the city, including the only novelist of the nineteenth century known outside the continent; but few readers of Machado de Assis, whose major novels were written before Cunha's work, would so easily cull him a realist, a city-bound novelist with consequent social or political implications, or see him joining Cambaceres or Blest Gana to cast doubt upon the enduring viability of the city "in the geographical and political context of Latin America". Did he really thrive in Rio, a city "noted for its constitutional stability"? He wrote against a background of abolition, the declaration of a republic, virtual civil war and military dictatorship. In the twentieth century, it is most curious to see the Mexican Juan Rulfo and the Brazilian Graciliano Ramos linked by their insight that radical reform in Latin America "in the classic Marxist hypothesis" has arisen from the land.

Following this general view is a series of monographic chapters, each organized around a long piece of practical criticism to illustrate the concern of eight modern Spanish American novelists with the writer's responsibility towards his continent. The method can work well, but the result becomes obtrusive. Marginal references remain frustratingly marginal. With regard to Brazilian references, Brotherston's Portuguese can let him down.

Sturrock's closely argued study of Borges reaps great rewards. Whereas much of the criticism on Borges cultivates complication for its own sake, Sturrock's account of Borges's "fictions" reveals both the complications and a single minded purpose behind those tales. The fictions are short stories, usually of a markedly fantastic nature, with no interest in painting a scene or depicting a character for the sake of it; they are rigorously composed tales which often end by denying all the assumptions they earlier invited the reader to make. They are all too easily interpreted as philosophy, for they do ask questions: what is individual identity? What is reality? What is truth? Is time linear or cyclical? Is there a God? Could there be a God? Such philosophical emphasis in many writings on Borges is misguided: he may share concerns that are traditionally the preserve of the philosophers, but he explores them by use of the fiction of literature, using its suggestive power and involvement of the reader for his own purposes. The stories are written in a spirit of criticism of all the common assumptions men hold about living: they offer no alternative, only the positive quality of doubt.

Sturrock's originality is to reveal Borges's fictions as exemplary of the processes of creation, representation and initiation which occur in fiction. Borges is viewed not as a philosopher, but as a literary critic. In *Emma Zunz*, for example, Emma avenges the suicide of her wrongfully accused father by killing the real culprit: she allows a sailor to violate her to make it appear that the guilty man raped her, so justifying her "self-defence". A traditional interpretation of the story would say that it asks about the nature of truth. Sturrock describes the cunning Emma as "an initiate into the rules of fiction, with something yet to learn about them"; she is the author of a fiction, not yet in full control of her art, in a story which Sturrock persuasively argues is full of fictive motifs.

Despite Sturrock's acute praise that some of his explanations are "much less contrived" than one stories, inevitably some will not convince; amid limpid accounts of some stories, he constructs, has to construct even, some possible rather than probable interpretations. The strength of the general thesis is that it holds. In the process it illuminates much of Borges's mathematical writing.

John Kinnear

Happily ever after?

Tragedy in the Victorian Novel: Theory and Practice in the novels of George Eliot, Thomas Hardy and Henry James
by Jeannette King
Cambridge University Press, £6.95
ISBN 0 521 21670 2

Happy endings in Victorian novels frequently require attrition or withdrawal. *Bleak House* is one example, *Jane Eyre* is another. Fulfilment for the chosen characters excludes too much of our remembered experience while reading to be quite satisfying. The emotional forces within the book are blanched and curtailed by the conclusion. Earlier Victorian fiction usually acknowledges individual tragic experience without permitting it to dominate the form of the novel. *Bleak House* continues after Lady Dedlock dies, and even so introverted a text as *Villette* reveals with mordant pleasure that the individual survives tragic experience. It does so as much through its retrospective first person form as through its action. *Wuthering Heights* and all earlier Victorian fiction might seem to claim the completeness of tragedy in the sufficiency with which emotion may be expressed. But tragedy is here surpassed by genealogy.

It is therefore perhaps not surprising that although Dr King calls her book *Tragedy in the Victorian Novel*, her three chosen authors are all from the later part of the century. She does not attempt any discussion of earlier Victorian fiction. Her indubitable indeed points up a particular limitation of the book. One might expect to find theoretical discussion of concepts of tragedy among Victorian writers, but after a brief introduction based entirely on Victorian periodical journalism there is very little attempt to range beyond quotation from her three chosen authors on the issues of tragedy. This absence of any evidence beyond the immediately literary means that we never get any sense of the ways in which novelists drew upon and transformed intellectual forces current in their own society. Neither Comte nor Schopenhauer is even mentioned, for example, although there is a 20-page chapter entitled "The Tragic Philosophy: Determinism and Free Will." This chapter alludes to Novalis and gives two sentences to Darwin. The rest of the commentary is a humanistic moral comparison of the activity of her chosen novelists.

Some of what King says and inquires is lucid and discriminating but her method frequently blurs the distinctions between what she thinks on her own account, what she imputes to her chosen authors, and what she can demonstrate from their practice:

> How far, in fact, can any act be free, and how effective can it be? No action is free in the sense that it is uncaused, but if the individual is aware of such causes, he can attempt to resist his own baser motives. He can act rationally, rather than irrationally. For a cause is not a compulsion. Whoever continually blames his environment for his failures is providing excuses rather than explanations; the environment is likely to be a cause, but it is not compulsion. As George Eliot puts it, "it always remains true that if we had been greater, circumstance would have been less strong against us".

In this passage there is an unremarked movement from King's own rationalistic stance ("He can act rationally . . ."), through a Victorian self-help trope ("Whoever continually blames his environment . . .") to a quotation from *Middlemarch* whose particular combination of present and past conditional, tenses runs counter to King's drift because it seals the substance of what is being said into overdetermination rather than tonic possibility. That effect is undermined by the placing of the quotation in King's commentary.

Although this book is not the wide-ranging, forceful piece of work that the title suggests, and indeed requires, it is nevertheless both useful and intelligent on a narrower front and may be of help to undergraduates in particular, if they take the questions it raises and the insights it offers as starting points for inquiry.

Gillian Beer

Into the Joycean caverns

Ulysses in Progress
by Michael Groden
Princeton University Press, £10.90
ISBN 0 691 06303 6

For most readers of James Joyce the canon consists of four monumental prose works, supplemented by an extant play, a capful of poems, and one or two posthumous fragments. For some Joyce scholars these are only the surface manifestations lining the mouth of the cave whose caverns contain an assortment of notebooks and notesheets, holographs and typescripts, galley proofs and fair copies. The Joyce speleologist spends hours exploring deep within while the casual viewer glances in and quickly departs, in order to avoid being impaled by dangerous stalactites. Michael Groden is one of the intrepid explorers, and his *Ulysses in Progress* charts some of the deeper recesses. He peers into and behind the published text of *Ulysses*, which he regards as only the end product of a progression that reveals the developing vein of Joyce's creative process.

Ulysses in Progress posits a development which changed not only the character of prose fiction but Joyce's intended novel as well. The major tension between naturalistic and symbolistic purposes in the writing of *Ulysses* has troubled many critics, but Groden discerns a three-stage series instead of the common assumption of two: that the book divides between what one commentator baldly names the "basic style" of the first nine chapters and the decidedly more complex forms of the last nine. Groden's thesis is that the second stage (beginning at "Cyclops") derives from an abandonment of interior monologue for the creation of new styles, while the third (beginning at "Circe") found Joyce indulging in further elaboration while refashioning all the previous chapters as well. Groden also refers to "variations on a basic style", but quickly substitutes Joyce's phrase, "initial style", shifting the emphasis correctly from fundamentals to sequentials. His sense of Joyce's creativity is at its most precise when he notes, "The concept of stages must remain a flexible one or it may imply a more schematic process than was actually the case. He never planned to end one stage and move on to another; one evolved into the next without a clear break."

Groden's scrupulosity attests to the best aspects of the textualists: they leave no bone interred that can be cleaned up and replaced into the skeleton. Their insistence on accounting for the smallest detail spares them the embarrassment of sloppy readings of the text. Groden is careful and precise. He is a rare user of the appellation "The Nameless One" for the "I" of "Cyclops", a designation that Joyce implants more than 200 pages after "Cyclops" ends. His factual errors are refreshingly few, but one does wonder when he categorically states that Bloom had hoped to inherit from Mrs Riordan (Molly admits that *she* did, and the Nameless One claims that Pisser Burke asserted that Bloom did—but no one would credit his testimony in court). And does Groden have actual evidence that Dante Riordan is really Stephen's "aunt", any more than Dante Conway was Joyce's aunt?

A disturbing characteristic of the textualists is that once they uncover a bone they never cease to worry it. Every scrap, significant or skimpy, receives expanded treatment. Endless repetitions abound in *Ulysses in Progress*, and a casual scanning of the index would make anyone believe that someone called Maurice Darantière was of monumental importance to Joyce—he gets more references than Frank Budgen, Stuart Gilbert, or Harriet Shaw Weaver. Darantière was the monolingual Dijon printer of *Ulysses*, certainly worth a greeting in the street but hardly a statue in the public square.

No one can fault Groden if his painstaking efforts do not set enormous results. He is modest in his claims, allowing that "several major problems in interpreting *Ulysses* unfortunately gain little or no illumination from a study of Joyce's work on the book". The ones he cites are indeed major concerns that still prove troublesome. But Groden might take a second look at several of the veins he unearthed for untapped nuggets. That Stephen was originally intended an appearance in "Cyclops", where he displays less than admirable qualities, is worth mulling over to keep him out of view for most of the Bloomsday afternoon. A reference to Bloom's hopes that his "mother-in-law" would remember him in her will suggests that Lunita Laredo originally was intended to play an extended role in Molly's life.

That Michael Groden does not pause to savour such discoveries indicates that his concern is more with the mechanical processes of the composition of *Ulysses* than with the creative energies at work during the composition. Groden's concluding words then are as prophetic as they are evangelical: "Joyce knew that there was a kind of immortality to be had in keeping the professors busy with the enigmatic content of his work, but he would be equally delighted to know that he has so successfully confounded the efforts of his editors and textual critics as well."

Bernard Benstock

This week's reviewers

Gillian Beer is a fellow of Girton College, Cambridge and author of *Romance*;
Bernard Benstock is visiting professor at Reading University. His book on Joyce, *The Undiscover'd Country*, was published last year;
Kevin Connolly is professor of psychology at Sheffield University;
A. H. Halsey, professor of social administration at Oxford, delivered this year's Reith lectures;
John Kinnear is lecturer in the department of Hispanic studies at Liverpool University;
Professor Colin Lacey is director of the Tutorial Schools Research Project at Sussex University;
John Mayberry is lecturer in mathematics at Bristol University;
Philip Pettit is professor of philosophy at Bradford University. He is co-editor, with Christopher Hookway of Action and Interpretation.

The Native American Heritage
A Survey of North American Indian Art
EVAN M. MAURER
This book is composed of 32 colour and 566 black-and-white plates and also contains two introductory essays. These essays are followed by the catalogue of an exhibition of the artistic development of the Native American population. The comments appended to each entry describe the significance of the piece and provide background concerning tribal history and the development of artistic style and motives.
Nebraska 1978 363 pages
paperback—£14.00

Storyville, New Orleans
Being an Authentic Illustrated Account of the Notorious Red-Light District
AL ROSE
The whole story of this unique social experiment in bringing prostitution under effective administrative control is told here in pictures and text. This book is full of interest to the general reader, anthologists, anthropologists, historians, psychologists, journalists, political scientists, jurists, and clergymen.
Alabama 1976—240 pages £8.75

Indian Artists at Work
JULIE STRETZER
Here is a stunning record of the ways in which Native American Crafts artists perform their traditional crafts. The author has sought out these highly skilled artisans, met them informally in their homes, and documented them at their work. Revealed in words and photographs of the artists themselves—comments on their heritage, on tools, materials, processes, and designs.
Washington 1977 144 pages £10.50

The Factory Girls
A Collection of Writings on Life and Struggles in the New England Factories of the 1860s by the Factory Girls Themselves, and the Story, in Their Own Words, of the First Trade Unions of Women Workers in the United States.
Edited by PHILIP S. FONER
Illinois 1978 390 pages £10.50

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Just published
J.L. Austin, A Critique of Ordinary Language Philosophy
Keith Graham £8.50
Exposition/Critique.
HARVESTER PRESS

Classified Advertisements Index

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AUSTRALIA

Applications are invited for the following posts, for which applications close on the dates shown. SALARIES (unless otherwise stated) are as follows: Professor $A31,248; Associate Professor $A26,904; Senior Lecturer $A19,977-$A22,299; Lecturer $A14,851-$A19,253. Further details, conditions of appointment for each post, method of application and application form, where applicable, may be obtained from the Association of Commonwealth Universities (Appts.), 36 Gordon Square, London WC1H 0PF.

University of Sydney
P. N. RUSSELL CHAIR OF ELECTRICAL ENGINEERING
The Chair will become vacant on the retirement of Professor W. S. Christiansen at the end of 1978. The teaching and research of Electrical Engineering is centred in the Department of Electrical Engineering and includes undergraduate and postgraduate teaching and research in Professional Electrical Engineering and other programmes of the type which involve several disciplines, such as engineering and applied science, and electrical engineering and physics.
31 March, 1978

LECTURER IN MATHEMATICAL STATISTICS
The successful applicant will be expected to participate actively in the teaching of courses in actuarial mathematics and in the second course given by the Department. Some experience in the field of life insurance would be desirable.
31 March, 1978

CHAIR OF VETERINARY PHYSIOLOGY
This Chair will become vacant on the retirement of Professor E. W. Bredereck at the end of 1978. Duties are to be within the Faculty of Veterinary Science and will include teaching and research in Veterinary Physiology.
24 April, 1978.

CHAIR OF CIVIL ENGINEERING
The Chair will become vacant on the retirement of Professor E. W. Bredereck at the end of 1978. There are two other Chairs of Civil Engineering at present occupied by Professor D. Campbell-Allen and Professor T. H. Hahn.
14 April 1978

LECTURER IN GEOGRAPHY
Appointments are sought for a subject list in Coastal Zone Resources and Management. Applications will be a member of the Coastal Studies Unit, which is now associated with the Department of Geography and Marine Science at Castle Hill. The appointee will be responsible for undergraduate teaching and postgraduate teaching and research in collaboration with other programmes of the unit which involve several disciplines, chiefly in environmental and coastal economics, and coastal engineering. He/she will be expected to have a background in physical and human aspects of coastal zone geography or geology. Preference may be given to applicants with research experience of the Australian coastal environment. Applicants will be welcome, if Ph.D. or the equivalent, but those with experience to respond.
31 March, 1978

CHAIR OF MATHEMATICAL STATISTICS
This Chair will become vacant on the retirement of Professor H. O. Lancaster at the end of 1978.
7 April 1978

University of New South Wales, Sydney
PROFESSOR OF DRAMA
School of Drama
Applications are invited for appointment to the above mentioned chair which has been vacated following the resignation of Professor Robert Quentin in 1977. The appointee will have high academic qualifications, both with practical experience of theatre and will become head of the School. The School is academic in character and is not limited in relation to the degrees it may offer.
31 May, 1978

La Trobe University, Melbourne
CHAIR IN MATHEMATICAL STATISTICS
School of Physical Sciences
The appointee will be expected to direct and take part in a programme of teaching and research in mathematical statistics, applied statistics, and probability theory.
22 May 1978

Monash University, Melbourne
FIXED-TERM LECTURER DEPARTMENT OF POLITICS
The Department wishes to appoint someone who has a proven research interest in the field of International Relations. Ability to teach, inter alia, in areas of Australian Politics or Political Theory would be an advantage.
10 April 1978

University of Queensland
LECTURER IN SOCIOLOGY
Applicants should have a higher degree in sociology or a related discipline, with interests and expertise in at least one of the following fields: Methodology, Sociology of Health, Social Planning and Policy, Problems of Urban Society, Sex Roles.
31 March 1978

Macquarie University, Sydney
SENIOR LECTURER LECTURER IN ACTUARIAL STUDIES
School of Economic and Financial Studies
Applicants should have good academic record and preferably pre-service Diploma of the Institute of Actuaries (London), or the Faculty of Actuaries (Edinburgh) or the Society of Actuaries of America.
28 April 1978.

Flinders University of South Australia
CHAIR OF POLITICS
Applications are invited from scholars with interests in any area of politics for appointment to a Chair of Politics in the School of Social Sciences. The interests of the current members of the discipline cover the following range: Australian politics, Chinese politics, comparative politics, development studies, international politics, political sociology, political theory.
to April, 1978.

UNIVERSITY OF MALAWI
CHANCELLOR COLLEGE
Applications are invited for the post of LECTURER IN PSYCHOLOGY, DEPARTMENT OF PHILOSOPHY, PSYCHOLOGY AND SOCIOLOGY.
Applicants must be holders of a good degree in Psychology from a recognised university or equivalent institution. Preference will be given to candidates with higher degrees in Psychology, with teaching and research experience in an African university. The appointee will be required to teach degree students. Salary: K1,500-K6,600 p.a. (£1 sterling equals K1.67). The British Government may supplement in range £3,420-£3,864 p.a. (sterling) for married appointee or £2,184-£2,568 p.a. (sterling) for single appointee (currently under review and normally free of all tax) and provide children's education allowances and holiday visit passages. If no British Government supplement is available the University may provide an addition of between K1,320-K1,656 p.a. (tax free) gratuity; FSSU; family passages; biennial overseas leave; various allowances. Detailed applications (two copies) with curriculum vitae and naming three referees to be sent to Registrar, University of Malawi, P.O. Box 278, Zomba, Malawi, by 14 April, 1978. Applicants resident in the UK should also send one copy to Mrs. B. Biggs, Inter-University Council, 90/91 Tottenham Court Road, London W1P 0DT. Further details may be obtained from either address.

UNIVERSITY COLLEGE, BOTSWANA
Applications are invited for the following posts:
1. SENIOR LECTURER/LECTURER IN THE DEPARTMENT OF PHYSICS.
The appointee will be required to offer courses mainly in Geophysics and/or Nuclear Physics up to final year (first degree level) and should be able to cope with all other branches of Physics at the lower levels of the degree programme. Preference will be given to candidates who can also offer courses in some of the following fields: Solid State Physics, Electromagnetism, Thermodynamics, Lagrangian Dynamics, Quantum Mechanics and Statistical Mechanics.
2. SENIOR LECTURER AND 2 LECTURERS IN DEPARTMENT OF MATHEMATICS.
Preference will be given to applicants with M.Sc. or Ph.D. in at least one of the following areas: (1) Real Analysis/Complex Analysis/Functional Analysis; (2) Theoretical Mechanics/Theoretical Physics; (3) Numerical Analysis with or without computer science.
Appointees will be required to develop and teach the above courses to third and fourth year undergraduates majoring in Mathematics and, in the near future, to students reading for the degree of M.Sc. in Mathematics. They will also be expected to undertake appropriate research in the area of study. The posts therefore require a specialized academic ability in the area, good teaching ability, and general capability to teach other mathematical courses to students in their first and second years of study.
Salary scales: Senior Lecturer P5,868-P7,116 p.a. Lecturer P4,272-P5,760 p.a. (P1 sterling equals P1.60). The British Government may supplement salaries in range £2,178-£3,216 p.a. (sterling) for married appointees and £804 to £1,716 p.a. (sterling) for single appointee (currently under review and normally free of all tax) and provide children's education allowances and holiday visit passages; baggage allowance; biennial overseas leave; inducement allowance 30%; gratuity 25% at end of each two-year tour plus various allowances.
Detailed applications (two copies) with curriculum vitae and naming three referees to be sent to Registrar, University College of Botswana, Private Bag 0022, Gaborone, Botswana, by 14 April, 1978. Applicants resident in UK should also send one copy to Mrs. B. Biggs, Inter-University Council, 90/91 Tottenham Court Road, London W1P 0DT. Further details may be obtained from either address.

UNIVERSITY OF THE WEST INDIES TRINIDAD
Applications are invited for two posts of Senior Lecturer and one post of Lecturer/Assistant Lecturer in Petroleum Engineering in the Department of Chemical Engineering. Applicants should possess a good honours degree or postgraduate diploma in Petroleum Engineering or its equivalent, together with at least three years' appropriate experience in petroleum production or research or in the petroleum industry. For the senior posts substantial industrial and/or research experience is essential. Membership of a Professional Engineering Institution would be an added advantage. Salary scales: 1977/78 Senior Lecturer: TT$25,827-TT$34,017 p.a.; Lecturer: TT$19,071-TT$29,799 p.a.; Assistant Lecturer: TT$15,480-TT$16,971 p.a. (£1 sterling = TT$4.63). F.S.S.U. Unfurnished accommodation, if available, at 10% or furnished 12½% or housing allowance at 20% of pensionable salary. Up to five full economy passages on appointment and on normal termination. Study and Travel Grant. Detailed application naming three (3) referees to Secretary, U.W.I., St. Augustine, Trinidad, as soon as possible. Details of posts sent to all applicants.

UNIVERSITY COLLEGE DUBLIN
DEPARTMENT OF MATHEMATICS
Applications are invited for an academic appointment in the Department of Mathematics. The appointment will be made at the level of either
Assistant Lecturer or College Lecturer
The current salary scales are: Assistant Lecturer: £5,081-£6,081. College Lecturer £6,840-£7,944. Entry point on the relevant scale will be in accordance with qualifications and experience.
Family allowances or equivalent are additional to salary. There is a non-contributory pension scheme; an alternative contributory F.S.S.U. type scheme is also available.
Prior to application, further information (including details of application procedure) should be obtained from Mr. J. P. MacHale, Secretary and Bursar, University College, Belfield, Dublin 4. Tel. 693244 Ext. 431.
The latest date for receipt of completed applications is Wednesday 5th April, 1978.

BELFAST
The Queen's University
LECTURESHIP AND TEMPORARY LECTURESHIP IN ANCIENT HISTORY
A newly created lectureship in the Department of Ancient History is available from 1st October, 1978, or such other date as may be arranged. Initial placing, which will depend on age, experience and qualifications, will be made at one of the first three points on the scale (under review) for lecturers: £6,333, £6,849, £7,761 rising to £8,865, with contributory pension rights under the FSSU/USS. The appointment will be subject to a period of probation of up to three years in duration. Applications for assistance with removal expenses will be considered.
In addition a temporary lectureship in Ancient History is available for one year only from 1st October 1978. The salary (under review) is £6,333 with USS.
Further particulars of the above lectureships may be obtained from the Personnel Officer, The Queen's University of Belfast, Belfast BT7 1NN, Northern Ireland. Closing date: 5 April, 1978. (Please quote Ref. 78/TH88.)

ULSTER:
The New University
Applications are invited for several appointments within the administration of the university.
Administrative Assistants/ Officers
Salary scales (under review): (with FSSU/USS)
Administrative Assistant: £2,904-£5,627 p.a.
Administrative Officer: £5,433-£6,855 p.a.:
Application forms and further particulars may be obtained from The Registrar, The New University of Ulster, Coleraine, Co. Londonderry, Northern Ireland (quoting Ref.: 78/25) to whom completed applications, including the names and addresses of three referees, should be returned not later than 7th April, 1978.

The University of Western Ontario
London Canada
DEPARTMENT OF MATHEMATICS
Applications are invited for a position in the Department of Mathematics. The appointment, which is subject to the availability of funds, will be for a period of six to twelve months in the 1978-1979 academic year. Preference will be given to applicants with research interests in analysis. Salary and rank will depend upon qualifications and experience.
Applications should be addressed to:
D. Borwein, Head,
Department of Mathematics,
The University of Western Ontario,
London, Ontario, Canada, N6A 5B9

UNIVERSITY OF DURHAM
APPOINTMENT OF VICE-CHANCELLOR
The University of Durham wish to appoint a Vice-Chancellor to succeed Sir Norman Chetham-Strode in January, 1979, or such later date as may be arranged. Any individual of appropriate experience and background who is interested in this post is invited to communicate with the undersigned from whom further information may be obtained.
The Council of the University reserves the right to appoint to the post by invitation.
Applications and all other communications should be marked "Confidential" and should be sent to the Registrar, Old Shire Hall, Durham, not later than 30 April, 1978.
I. S. GRAHAM, Registrar and Secretary

UNIVERSITY OF CAPE TOWN
CENTRE FOR EXTRA-MURAL STUDIES
SENIOR TUTOR OR TUTOR FOR COMMUNITY EDUCATION AND RESEARCH PROJECT
Applications are invited for the above mentioned post. Its duties will be to extend the University's extra-mural programme within the black communities of Cape Town; to develop and facilitate an integrated adult education programme and progress a series of experimental adult education programmes designed to equip those with little formal education to meet and overcome their problems related to these programmes.
Applicants should have a sound academic background with specialization in Education, Sociology, Economics, social work or the social sciences, and the capacity to plan and evaluate programmes in co-operation with others. Preference will be given to someone thoroughly familiar with the urban black situation.
The post has been established as a result of the grant of funds which will be drawn from the Urban Foundation for a period of three years. However, if funds permit it will be confirmed for a further period.
Appointment will be made either at Senior Tutor level at a salary scale ranging from R9,030 to R10,998 per annum according to qualifications and experience of the successful applicant. It should be noted that these salary scales are fixed, and will not be increased, as a result of any future adjustments to University salaries.
Applicants should submit a curriculum vitae stating named referees, the date they could be assumed, and the names and addresses of three referees.
Memoranda concerning the position and general conditions of service should be obtained from the Registrar, Room 10 University of Cape Town, Private Bag (P.A.), Rondebosch 7700, to whom applications must be received not later than April 25, 1978.

Universities continued

UNIVERSITY OF EAST ANGLIA
NORWICH
Applications are invited for four
LECTURESHIPS
in Development Studies in the School of Development Studies in the following fields:

Social Change
Applications are invited from candidates with strong academic qualifications in the social sciences and preferably with experience in research and/or consultancy. The successful candidate will be capable of teaching social planning as well as contributing to other courses in the School including principles of comparative sociology or principles of comparative economics. He/she will be expected to offer particular interests and expertise in specialist fields within the general area of social analysis and social planning e.g. institutional development, health and nutrition, population planning, labour and manpower, preferably with reference to developing countries.

Comparative Political Development
For this post, a candidate is sought with interests in the theory of the State and political development (at local as well as national and supranational levels), with particular reference to European expansion in the 19th and 20th centuries and contemporary post-colonial states.
Experience in research or consultancy or advisory work in less developed countries is an advantage, and candidates should have an interest in the practical application of their subject to the problems of development.
The successful candidate will be expected to participate in the inter-disciplinary teaching of the compulsory courses in the first and second years of the B.A., as well as in the more specialist, optional courses in political development and in other subjects in the second and third years.

Economic Development
Applications are invited from candidates in all fields of economics, although preference may be given to individuals with an interest in the analysis of state intervention and public policy including the analysis of fiscal and monetary policy.
The teaching of the School is within an interdisciplinary framework and the successful candidate will be expected to be involved in the teaching of interdisciplinary courses, as well as of economics.

Agricultural and Natural Resources Development
Candidates should have *either* a first degree in Agriculture, Forestry, Geography or Applied Sciences with a post-graduate qualification or equivalent experience in agricultural economics or resource management, *or* a first degree in Economics with a post-graduate qualification in agricultural economics or natural-resource evaluation and management.
Wide experience in the appraisal and evalution of farm systems and/or land and water resource development projects in the Third World countries is very desirable.
The appointee will be expected to teach principles of natural resource development, part of the interdisciplinary principles programme, and natural resource aspects of rural development in an already well-established part of the undergraduate teaching programme, and to make a contribution to the development of a new professional course leading to the M.A. in Rural Development.
The successful candidates will become members of the Overseas Development Group and may expect to spend up to one third of their time on externally financed projects, usually overseas.
Salary will initially be within the range £3,333 to £4,190 (although in exceptional circumstances an appointment may be made beyond this point) on the Lecturer scale £3,333 to £6,855 (under review) plus FSSU/USS benefits.
Applications (one copy only) giving full particulars of age, qualifications and experience, together with the names and addresses of three persons to whom reference may be made, should be lodged with the Establishment Officer, University of East Anglia, Norwich NR4 7JT, from whom further particulars may be obtained not later than 21 April 1978. No forms of application are issued. In naming three referees you are requested to give only the names of those who can immediately be approached by the University.

BELFAST
The Queen's University
TWO NEW POSTS IN MUSIC
COMPOSER-IN-RESIDENCE
Applications are invited from composers for the post of Composer-in-residence, financed jointly by the Arts Council of Northern Ireland and the University. The appointing Committee will also consider the names of established composers who are brought to its attention. The post, which will be attached to the Department of Music, is for one year in the first instance but may be renewed annually for a maximum of three years. The salary is £4,000 per annum and the successful applicant will be expected to take up post in September or October.
LECTURESHIP IN MUSIC
A lectureship in the Department of Music is available from October 1, 1978 or such other date as may be arranged. The staff of the Music Department at present consists of one professor, one senior lecturer, two lecturers, and several part-time teachers. Initial placing, which will depend on age, experience and qualifications, will be made at one of the first three points on the scale under review for lecturers: £3,333, £3,543, £3,761 rising to £6,855, with contributory pension rights under the FSSU/USS. This appointment will be subject to a period of probation of up to three years in duration. *Application for assistance with removal expenses will be considered. Further particulars of the above posts may be obtained from the Personnel Officer, The Queen's University of Belfast BT7 1NN, Northern Ireland. Closing date April 28, 1978. Please quote Ref. 78/THES.*

UNIVERSITY COLLEGE DUBLIN
Applications are invited by the Governing Body of the College for the following full-time statutory post which will become vacant in October, 1978.
Professorship of French
Prior to application, further information (including application procedure) should be obtained from Mr. J. P. MacHale, Secretary and Bursar, University College, Belfield, Dublin 4. Tel. 693244 Ext. 431.
THE LATEST DATE FOR RECEIPT OF COMPLETED APPLICATIONS IS THURSDAY, 13th APRIL, 1978.

UNIVERSITY OF SYDNEY
SOLAR ENERGY:
LECTURESHIP/RESEARCH FELLOWSHIP IN MECHANICAL ENGINEERING
The appointment is for a fixed term of three years. Applicants should have previous research experience in a relevant field and will be expected to contribute towards the joint School of Physics/Mechanical Engineering research effort utilizing the School of Physics facilities.
Salary range: $A14,851-$A19,551 pa.
Further details of the research programme can be obtained from Professor R. I. Tanner. Applications including curriculum vitae, list of publications and names of three referees by 30 March, 1978 to the Registrar, University of Sydney NSW 2006, Australia. Information available from Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF.

UNIVERSITY OF CAMBRIDGE
Applications are invited for a
UNIVERSITY ASSISTANT LECTURESHIP IN GERMAN
in the Faculty of Modern and Medieval Languages to take office from 1 October 1978
The successful candidate will be invited to teach German and Italian language classes and to lecture on the literature of the period since 1700.
The Appointment will be subject to the Statutes and Ordinances of the University and will be for three years in first instance.
The scale of pensionable stipends for a University Assistant Lecturer is £3,543 rising by four annual increments to £4,403.
Applications (ten copies) with names of two or three referees should be sent to The Secretary of the Appointments Committee for the Faculty of Modern and Medieval Languages, Sidgwick Avenue, Cambridge CB3 9DA, by 8 April, 1978.

UNIVERSITY OF MALAWI
CHANCELLOR COLLEGE
Applications are invited for the following post in the DEPARTMENT OF PUBLIC ADMINISTRATION. Applicants should have a higher degree in Political Science or Public Administration. A higher degree, teaching and research or civil service experience in Africa or a developing country will be an advantage. The appointee will be required to teach degree/diploma courses in at least two of the following areas: organizational theories and behaviour, management, personnel administration, statistical analysis, public policy analysis, local administration, public enterprises, introductory political science and comparative politics and comparative public administration and development administration. Applicants should indicate in their application their fields of competence. Salary: K6,900-K8,600 p.a. (£1 sterling = K1.67). The British Government may supplement salaries in range £2,460- £4,176 p.a. (sterling) for married appointee and £2,184 to £2,652 p.a. (sterling) for single appointee (family allowances under review and normally free of all tax) and provide children's education allowances and holiday visit passages; if no British Government supplementation is available the University may provide an addition of between K1,320 to K1,680 p.a. (taxable in Malawi); Gratuity of 15 to 25 per cent; FSSU; family passages; biennial overseas leave; various allowances; housing. Detailed applications (2 copies) with curriculum vitae and naming three referees to be sent to Registrar, University of Malawi, P.O. Box 278, Zomba, Malawi, by April 14, 1978. Applicants resident in the UK should also send one copy to Mrs. B. Biggs, Inter-University Council, 90/91 Tottenham Court Road, London W1P 0DT. Further details may be obtained from either address.

UNIVERSITY OF MALAWI
CHANCELLOR COLLEGE
Applications are invited for the post of LECTURER IN THE DEPARTMENT OF PUBLIC ADMINISTRATION. Applicants should have a good honours degree in Political Science or Public Administration, with a special interest in the taxonomy and ecology of tropical plants. Preference will be given to candidates with the experience of African plants, especially those of the Flora Zambesiaca region. The post involves the administration and curation of the University of Malawi Herbarium and the development of the Botanic Garden Project, which will be appointed at Senior Lecturer/Lecturer level will also be expected to teach Systematic Botany courses at undergraduates level in the Biology Department.
Salary scales: Senior Lecturer K8,600 to K9,600 p.a.; Lecturer K5,600-K6,600 p.a. (£1 sterling equals K1.67). The British Government may supplement salaries in range £2,460- to £4,176 p.a. (sterling) for married appointee and £2,184 to £2,652 p.a. (sterling) for single appointee (family allowances under review and normally free of all tax) and provide children's education allowances and holiday visit passages; if no British Government supplementation is available the University may provide an addition of between K1,320 to K1,680 p.a. (taxable in Malawi); Gratuity of 15 to 25 per cent; FSSU; family passages; biennial overseas leave; various allowances; housing. Detailed applications (2 copies) with curriculum vitae and naming three referees to be sent to Registrar, University of Malawi, P.O. Box 278, Zomba, Malawi, by April 14, 1978. Applicants resident in the UK should also send one copy to Mrs. B. Biggs, Inter-University Council, 90/91 Tottenham Court Road, London W1P 0DT. Further details may be obtained from either address.

UNIVERSITY OF MALAWI
CHANCELLOR COLLEGE
Applications are invited for the post of LECTURER IN THE DEPARTMENT OF CIVIL ENGINEERING
Applicants are invited for an appointment of up to two years commencing as soon as possible to work on the development of a policy-sensitive computer simulation model of the Victorian grain collection, handling and transport system. The appointee will contribute to the conceptual and detailed design of the model and undertake coding and testing of the programme on the University's CDC CYBER computer.
Applicants should have a degree in civil engineering, operations research or other appropriate discipline with experience in transport network analysis. Preference for candidates with experience in economics and/or systems analysis.
A reasonable travel and removal allowance will be negotiated.
SALARY: $A14,851-$A19,551 per annum.
Further information from the Chairman of the Department, Dr. L. C. Schmidt.
Further information, including details of application procedure and conditions of appointment, is available from the Registrar, University of Melbourne, Parkville, Victoria, 3052, Australia. Applications referring to Position Number 481 GEE should be addressed to the Registrar and close on 21 April, 1978.

UNIVERSITY OF MELBOURNE
RESEARCH FELLOWSHIP IN TRANSPORT ENGINEERING
in the
DEPARTMENT OF CIVIL ENGINEERING
Applicants are invited for an appointment of up to two years commencing as soon as possible to work on the development of a policy-sensitive computer simulation model of the Victorian grain collection, handling and transport system. The appointee will contribute to the conceptual and detailed design of the model and undertake coding and testing of the programme on the University's CDC CYBER computer.
Applicants should have a degree in civil engineering, operations research or other appropriate discipline with experience in transport network analysis. Preference for candidates with experience in economics and/or systems analysis.
A reasonable travel and removal allowance will be negotiated.
SALARY: $A14,851-$A19,551 per annum.
Further information from the Chairman of the Department, Dr. L. C. Schmidt.
Further information, including details of application procedure and conditions of appointment, is available from the Registrar, University of Melbourne, Parkville, Victoria, 3052, Australia. Applications referring to Position Number 481 GEE should be addressed to the Registrar and close on 21 April, 1978.

NATIONAL UNIVERSITY OF LESOTHO
Applications are invited for the post of
LECTURER/ASSISTANT LECTURER IN ENGLISH LANGUAGE
tenable immediately. The appointee will be required to teach a course in Communication Skills to Science students in their First year (i.e., the pre-entrance year of the B.Sc. course) and should have the following qualifications: either (a) a good honours degree in a science subject or a good general degree in science combined with some language teaching experience, or (b) a good honours degree in English, with qualifications in and experience of TEFL or TESL, combined with an interest in and a knowledge of teaching in Africa will be an additional advantage.
Salary scales: Lecturer, R5,493 to R7,527 p.a., Assistant Lecturer R4,572 to R5,022 p.a. (£1 sterling equals R1.70). Non-contributory superannuation for appointees on permanent terms of service. Appointees on contract terms receive 25 per cent gratuity in lieu of superannuation for the first two years of the contract, rising to 27½ per cent and 30 per cent for each subsequent and similar period of service. There is a 15 per cent inducement allowance for expatriates not qualifying for superannuation schemes. Family passages; baggage allowance; housing. Detailed applications (three copies) including full curriculum vitae and naming three referees by April 15, 1978, to the Assistant Registrar (Appointments), P.O. Roma, Lesotho. Applicants resident in the U.K. should also send one copy to Inter-University Council for Higher Education Overseas, 90/91 Tottenham Court Road, London W1P 0DT. Further particulars may be obtained from either address.

LOUGHBOROUGH UNIVERSITY OF TECHNOLOGY
CHAIR IN EUROPEAN POLITICS
Applications are invited for the Chair in European Politics in the Department of European Studies from it is anticipated that the appointee will be offered the headship of the Department on a five year re-elective basis. Candidates' special interests are not prescribed but a knowledge of and interest in French and German politics would be desirable.
Salary within professorial range.
Requests for further particulars and application forms to Paul Johnson, Establishment Officer, Ref.: 78/ USED.
Loughborough *Leicestershire*

BIRMINGHAM
UNIVERSITY OF ASTON
DEPARTMENT OF CIVIL ENGINEERING
TWO LECTURESHIPS IN CONSTRUCTION AND MANAGEMENT
Applications are invited for two University Lectureships. For the Lectureship in Construction Economics or engineering, duties will include teaching and research in the field of construction control methods. This would be an appointment at the level of Lecturer Grade A (£3,543 to £4,403) or Senior Lecturer (£4,572 to £6,855) according to the successful candidate's qualifications and experience. For the Lectureship in Structural Mechanics, duties will include teaching and research in Structural Mechanics and Structural Design.
Commencing salary will be within the range £3,543 to £6,855 per annum (£1 sterling = £1.70) plus annual increments to £6,855 per annum, currently under review.
Application forms and further particulars from the Secretary (Ref. 78/CE), University of Aston in Birmingham, Gosta Green, Birmingham B4 7ET, to whom completed applications should be returned not later than April 14, 1978.

BIRMINGHAM
THE UNIVERSITY
INSTITUTE OF JUDICIAL ADMINISTRATION
S.S.R.C. RESEARCH STUDENTSHIP
Applications are invited for two studentships commencing in October 1978, tenable for three years, for research in the field of judicial administration, with socio-legal emphasis, leading to the degree of Ph.D. (Birmingham) or D.Phil. (Oxford).
Further details from the Administrative Secretary, Institute of Judicial Administration, The University of Birmingham, P.O. Box 363, Birmingham B15 2TT, to whom applications should be sent by April 14, 1978. Quote reference 78/SS.

ABERYSTWYTH
UNIVERSITY COLLEGE OF WALES
DEPARTMENT OF CHEMISTRY
An S.S.C. Postdoctoral Research Fellowship is available from 1 October 1978 concerned with Catalytic Conversion of Hydrocarbons using Metal Exchanged Silicoaluminophosphate Molecular Sieves. You will work with Dr. Adams, but will be expected to assist with the supervision of Postgraduate Students and undergraduate practicals. The appointment will be for two years in the first instance. Salary will be on the Research Assistant scale £2,904-£5,627 p.a. (£1 sterling = £1.70). Initial placing will depend on experience. Applications, including a curriculum vitae and the names of two referees should be sent to Dr. Adams, Department of Chemistry, University College of Wales, Aberystwyth, Dyfed SY23 1NE, as soon as possible.

ABERDEEN
THE UNIVERSITY
CHAIR OF MATHEMATICS
Applications are invited for the above Chair which falls vacant on the retirement of Professor D. Rees.
Further particulars from the Secretary, University, Aberdeen, AB9 2UB, with whom applications should be lodged by 21 April 1978.

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Universities continued

ABERDEEN
THE UNIVERSITY

DEPARTMENT OF POLITICAL ECONOMY

LECTURESHIPS

Applications are invited for two lectureships in economics in the Department of Political Economy. For one of the posts a teaching interest in microeconomics, at intermediate and advanced levels, is required, while a research interest in natural resource or energy economics would be an advantage for one or other of the posts.

Salary on Scale £3,333 to £6,655 per annum, with appropriate placing. Superannuation and removal allowance.

Further particulars from the Secretary, The University, with whom applications (two copies) should be lodged by 7 April, 1978.

BATH
THE UNIVERSITY

CENTRE FOR EUROPEAN INDUSTRIAL STUDIES

Applications are invited for the post of RESEARCH OFFICER tenable for two years from 1st October, 1978, in a study of government economic policy and transport relating to the United Kingdom and West Germany.

The ideal applicant will be an economist with a higher degree.

Salary up to £3,761 per annum (under review), according to qualifications and experience.

Application forms and further details are obtainable from the Personnel Officer, University of Bath, Claverton Down, Bath, quoting reference number 78/36/T.H.E.S. Closing date will be Friday, 31st March, 1978.

BATH
THE UNIVERSITY

Applications are invited for a LECTURER IN BIOCHEMISTRY. The starting salary will be set in the lower part of the salary range (£3,333 to £6,655 per annum).

Further particulars and application forms obtainable from the Personnel Officer, University of Bath, Bath BA2 7AY, quoting reference number 78/45/T.H.E.S.

Closing date for applications 7th April, 1978.

BIRMINGHAM
THE UNIVERSITY

CHAIR AND HEADSHIP OF THE DEPARTMENT OF DRAMA AND THEATRE ARTS

Applications are invited for the Chair and Headship of the Department of Drama and Theatre Arts.

Salary in the professorial range. Superannuation.

Further particulars obtainable from the Registrar, University of Birmingham, P.O. Box 363, Birmingham, B15 2TT, to whom applications (12 copies, one from overseas applicants), naming three referees, should be sent by 2nd May, 1978.

BIRMINGHAM
THE UNIVERSITY

FACULTY OF COMMERCE AND SOCIAL SCIENCE

DEPARTMENT OF SOCIAL ADMINISTRATION

TEMPORARY RESEARCH ASSOCIATE (RANGE 1B)

A RESEARCH ASSOCIATE, based in Reading, is required to join a team investigating the need for a client information system in a Social Services Department.

Applicants should have a good first degree in the Social Sciences or an equivalent professional qualification. Experience in the personal social services or of information systems would be desirable.

The project has already begun and will last until the end of August, 1979. The appointment will commence as soon as possible and in any case not later than August 1, 1978.

The successful applicant will be required to live in or near Reading and to travel throughout Berkshire.

Salary scale £3,333 to £4,190 per annum (under review) plus superannuation.

Further particulars and application forms from the Assistant Registrar (Commerce), University of Birmingham, P.O. Box 363, Birmingham B15 2TT, to whom three copies of the form, naming three referees, should be returned by Friday, April 7, 1978, quoting reference C/208/RB.

BRADFORD
THE UNIVERSITY

LECTURESHIPS IN ECONOMICS

Applications are invited for two Lectureships in Economics. One of the posts will be in the field of Accountancy and/or Finance.

Salary within scale £3,333 to £6,655 per annum (under review); superannuable.

Further particulars/application forms (to be returned by 31st March) obtainable from Registrar (Ref. E/L/1/B/TH), University of Bradford, West Yorkshire BD7 1DP.

EDINBURGH
THE UNIVERSITY

DEPARTMENT OF POLITICS TEMPORARY LECTURESHIP

Applications are invited for a temporary post of LECTURER in the Department of Politics to replace a member of staff on sabbatical leave during the academic year 1978/79. The person appointed should be able to lecture on Russian Political Institutions. Salary at the lower end of the scale £3,333 to £6,655 per annum.

Applications by letter (six copies) giving the names of two referees should be sent to the Secretary to the University, Old College, South Bridge, Edinburgh, EH8 9YL by 28th April, 1978. Please quote Reference 1016.

BRISTOL
THE UNIVERSITY

Applications are invited for the post of LECTURER in FRENCH within the Department of French tenable from 1st September, 1978. Preference may be given to specialists in Renaissance and/or Drama.

Salary within the range £3,333 to £5,423 on the Lecturer salary scale (under revision).

Further particulars may be obtained from the Secretary, University of Bristol, Senate House, Bristol BS8 1TH, to whom applications, including the names and addresses of three referees, should be sent by 15th April, 1978 (please quote reference LH).

BRISTOL
THE UNIVERSITY

LECTURESHIPS IN ECONOMICS

The Department of Economics invites applications for lectureships in Economics from those with interests in any field of economics. An ability to contribute to the teaching of Welfare Economics or the History of Economic Theory would be an advantage in relation to one of the posts.

The Lectureships are tenable from a date to be agreed. The salaries are within the normal range for lecturers, which is £3,333 to £6,655, according to qualifications and experience.

Further particulars may be obtained from the Secretary, University Senate House, Bristol, BS8 1TH, to whom applications should be sent by 31st March, 1978 (quoting reference LH).

BRISTOL
THE UNIVERSITY

LECTURESHIPS IN ECONOMETRICS AND IN MATHEMATICAL ECONOMICS

The Department of Economics invites applications for the posts of Lecturer in Econometrics and Lecturer in Mathematical Economics.

The Lectureships are tenable from a date to be agreed, at the normal lecturers' salary, which is within the range £3,333 to £6,655, according to qualifications and experience.

Further particulars may be obtained from the Secretary, University Senate House, Bristol, BS8 1TH, to whom applications should be sent by 31st March, 1978 (quoting reference LH).

THE CITY UNIVERSITY

DEPARTMENT OF SOCIAL SCIENCE & HUMANITIES

Applications are invited for a LECTURESHIP in PSYCHOLOGY. Applicants must have teaching and research interests in psychophysiology, physiological psychology or psychobiology.

Salary scale: £3,333 to £6,655 per annum (under review) plus £450 London Allowance.

Further particulars and application forms from the Deputy Academic Registrar, The City University, St. John Street, London EC1V 4PB (tel. 01-253 4399, ext. [illegible]), to whom applications should be sent by April 7th, 1978. Please quote reference SSH 197 THES.

DURHAM
THE UNIVERSITY

DEPARTMENT OF PHYSICS

Applications are invited for the post of LECTURER in the DEPARTMENT OF PHYSICS from October 1, 1978. Applicants with experience in any branch of experimental or theoretical physics will be considered.

Starting salary in the range £3,333 to £6,655 (under review) plus superannuation.

Applications (three copies) naming three referees should be sent by May 1, 1978, to the Registrar and Secretary, Science Laboratories, South Road, Durham DH1 3LE (from whom further particulars may be obtained).

EAST ANGLIA
THE UNIVERSITY

Norwich

Applications are invited for the CHAIR OF ECONOMICS in the School of Economic and Social Studies, following the retirement of Professor [illegible]. Appointment will be at an appropriate point on the Professorial scale (£8,106 to £9,997 (under review)) plus USS benefits and will be tenable from October 1, 1978, or as soon as possible thereafter.

Applications (one copy only) giving the names of three persons to whom reference may be made, should be lodged with the Registrar and Secretary, University of East Anglia, Norwich NR4 7TJ (telephone 0603 56161, ext. 3215) from whom further particulars may be obtained, not later than April 21, 1978. No forms of application are issued. In naming three referees you are particularly requested to give only the names of those who can immediately be approached.

DUNDEE
THE UNIVERSITY

CHAIR OF POLITICAL SCIENCE

Applications are invited for appointment to this Chair which will fall vacant on 30th September, 1978 on the retiral of Professor J. M. Brown.

Further particulars of the appointment may be obtained from The Secretary, The University, Dundee DD1 4HN, with whom applications (ten copies, overseas applicants one copy), containing the names of three referees should be lodged not later than 24th April, 1978. Please quote reference Est/21/780.

EDINBURGH
THE UNIVERSITY

DEPARTMENT OF POLITICS

LECTURESHIP

Applications are invited for the post of Lecturer in the Department of Politics on the salary scale £3,333 to £6,655 per annum. The post is in Politics and Government (but not in Political Theory) and special consideration will be given to anyone interested in American Government or Political Sociology.

Applications by letter (six copies) giving the names of two referees should be sent to the Secretary to the University, Old College, South Bridge, Edinburgh, EH8 9YL, from whom further particulars may be obtained. The closing date for applications is 20th April 1978 and the successful candidate will be expected to take up duty on 1st October 1978. Please quote Reference 1017.

EDINBURGH
THE UNIVERSITY

ROYAL (DICK) SCHOOL OF VETERINARY STUDIES

DIRECTORSHIP OF THE CENTRE FOR TROPICAL VETERINARY MEDICINE AND CHAIR OF TROPICAL ANIMAL HEALTH

The University Court invites applications for the Directorship of the Centre for Tropical Veterinary Medicine and the Chair of Tropical Animal Health which will become vacant following the retirement of Professor Sir Alexander Robertson. The Directorship and Chair will be tenable from 1st October, 1978, or from a date to be arranged.

Particulars of the appointment may be obtained from the Secretary to the University, University of Edinburgh, Old College, South Bridge, Edinburgh, EH8 9YL, with whom applications (12 copies) and the names of three referees should be lodged not later than Friday, 21st April, 1978. Applicants from overseas may submit one copy only of application. Please quote Reference 1 78.

EDINBURGH
THE UNIVERSITY

WILLIAM DICK CHAIR OF VETERINARY SURGERY

The University Court invites applications for the William Dick Chair of Veterinary Surgery. The terms and conditions of appointment may be obtained from the undersigned, with whom the application (12 copies) giving the names and addresses of three referees, should be lodged not later than 1st May, 1978. A candidate from overseas may submit one copy of his application. Please quote Reference 1 70.

Charles H. Stewart, Secretary to the University, University of Edinburgh, Old College, South Bridge, Edinburgh EH8 9YL.

EXETER
THE UNIVERSITY

LECTURESHIP IN ENGLISH

Applications are invited for a post of Lecturer in English tenable from 1 October 1978.

An interest in the nineteenth and/or twentieth centuries would be an advantage, but applications will be considered from candidates whose own interests are in other periods.

Commencing salary within the range £3,333 to £3,975 per annum (under review) on the salary scale £3,333 to £6,655 per annum (under review).

Further particulars from Miss Doreen Watson, Administrative Assistant (Appointments), University of Exeter, Northcote House, The Queen's Drive, Exeter, to whom applications (six copies) should be sent by 7 April, 1978. Please quote reference number 3170.

EXETER
THE UNIVERSITY

LECTURESHIP IN POLITICS

Applications are invited for a post of Lecturer in the Department of Politics, tenable from 1 October, 1978.

The Department wishes to recruit a specialist in Political Theory; applicants will be requested to submit a recent example of their published or unpublished work.

Commencing salary within the range £3,333 to £3,975 per annum (under review) on the salary scale £3,333 to £6,655 per annum (under review).

Further particulars from Miss Doreen Watson, Administrative Assistant (Appointments), University of Exeter, Exeter, EX4 4QJ, to whom applications (SIX COPIES) should be sent by 17 April, 1978. Please quote reference No. 3169.

GLASGOW
THE UNIVERSITY

DEPARTMENT OF POLITICS

TEMPORARY LECTURESHIP IN POLITICS

Applications are invited for a temporary LECTURESHIP in POLITICS tenable for one year from October 1, 1978. Applicants should have a special interest in the study of public policy and administration.

The salary will be within the range of £3,333 to £4,011 per annum (under review) on the Lecturers' Scale.

Further particulars may be had from the Secretary of the University Court (Room 1H), The University of Glasgow, Glasgow G12 8QQ, with whom applications (eight copies), giving the names and addresses of three referees, should be lodged on or before April 14, 1978.

In reply please quote Ref. No. 3911.

GLASGOW
THE UNIVERSITY

DEPARTMENT OF SOCIAL AND ECONOMIC RESEARCH

LECTURESHIP (Temporary) in APPLIED ECONOMICS, URBAN REGIONAL

Applications for the above post, tenable for a maximum of 11 months, are invited from persons with a good Honours degree in Economics. A relevant post-graduate qualification or research experience in relevant subjects would be desirable. The salary will be within the range £3,333 to £4,011 (under review) on the Lecturers' scale. The starting date is August 1, 1978, or as soon after as can be arranged.

Applicants should send eight copies of their qualifications and experience with the names and addresses of three persons to whom reference can be made, not later than March 27, 1978, to the Secretary of the University Court (Room 1H), The University of Glasgow, Glasgow G12 8QQ, from whom further particulars may be obtained.

In reply please quote Ref. No. 3975.

GLASGOW
THE UNIVERSITY

LECTURESHIP IN SOCIOLOGY

Applications are invited for a lectureship in the Department of Sociology of this University.

The salary placement will initially be within the range £3,333 to £4,011 per annum of the Lecturers' scale £3,333 to £6,655 per annum (under review). Placement will be dependent upon qualifications and experience. Appropriate Superannuation Scheme will apply.

Further particulars may be had from the Secretary of the University Court (Room 1H), The University of Glasgow, Glasgow G12 8QQ, with whom applications (eight copies) giving the names and addresses of three referees, should be lodged on or before April 7, 1978.

In reply please quote Ref. No. 4095.

GLASGOW
THE UNIVERSITY

STUDENT COUNSELLOR

Applications are invited for the post of Student Counsellor.

Applicants should be university graduates with experience of counselling, preferably in the field of higher education. Experience gained in the West of Scotland would be an advantage, as would knowledge of the social work services.

Salary will be within the range £3,423 to £7,051, i.e. Grade II or III of the National Salary Structure for Administrative Staff, with placing according to age and experience.

Further particulars may be had from the Secretary of the University Court, Room 1H, The University of Glasgow, Glasgow, G12 8QQ, with whom applications (eight copies giving the names and addresses of three referees, should be lodged on or before 10th April 1978.

In reply please quote Ref. No. 3982/1T.

LAMPETER
UNIVERSITY OF WALES

SAINT DAVID'S UNIVERSITY COLLEGE

LECTURER IN GEOGRAPHY

Applications are invited for the post of Lecturer in Human Geography. Applicants should preferably have a research interest in Economic, Social or Cultural Geography.

Salary scale: £3,333 to £6,655 per annum (under review), plus superannuation.

Further particulars and application forms from the Academic Registrar, Saint David's University College, Lampeter, SA48 7ED. Closing date 10th April, 1978.

LEEDS
THE UNIVERSITY

DEPARTMENT OF ANIMAL PHYSIOLOGY AND NUTRITION

Applications are invited for the post of RESEARCH ASSISTANT in the above Department to work on a project on the control of feeding behaviour in sheep. Applicants should have a good honours degree in physiology, biochemistry, animal science or some other suitable subject. The post is available for a period of three years from a date to be arranged.

Salary on the IB Scale for Research and Analogous Staff, £2,901 to £4,190 (under review).

Application forms and further particulars may be obtained from the Registrar, The University, Leeds LS2 9JT, quoting reference number 61/3/10. Closing date for applications, 10 April, 1978.

LEEDS
THE UNIVERSITY

SCHOOL OF ENGLISH

Candidates are invited to apply for a GREGORY FELLOWSHIP in POETRY tenable in the School of English, for one year in the first instance, renewable for a further year.

Salary: £3,333 on the I.A. Scale for Other Related Staff (under review).

Application forms and further particulars may be obtained from the Registrar, The University, Leeds LS2 9JT, quoting reference number 3/8. Closing date for applications 10th April, 1978.

LEICESTER
THE UNIVERSITY

CHAIR OF STATISTICS

Applications are invited from candidates engaged in any field of statistics for a new Chair of Statistics in the Department of Mathematics, tenable from October 1, 1978, or as soon as possible thereafter.

Further particulars from the Registrar, The University, Leicester LE1 7RH, to whom applications should be sent by May 12, 1978, quoting reference TH/78. Candidates in the U.K. should submit fifteen copies of their application (overseas candidates may submit one copy).

LIVERPOOL
THE UNIVERSITY

INSTITUTE OF EXTENSION STUDIES

Applications are invited for the post of TUTOR in HEALTH VISITING (Special Appointment) in the Institute of Extension Studies. Candidates should possess a Health Visitor Tutor's Certificate and a recognised teaching qualification approved by the Council for the Education and Training of Health Visitors. Preference may be given to a Graduate in nursing or other subjects appropriate to the Health Visitor's Certificate course. The successful candidate will assist with the teaching of an existing course and will have course leading to the Health Visitor's Certificate recognised by the Central Council of the Education and Training of Health Visitors. The appointment is tenable from 1st September 1978, or as soon as possible thereafter.

The salary will be within the range [illegible] per annum.

Further information and application forms may be obtained from the Registrar, The University, P.O. Box 147, Liverpool, L69 3BX, by whom the completed application forms should be received not later than 30th April 1978. Quote Ref. RV 098/THES.

HONG KONG
THE UNIVERSITY

LECTURESHIP ASSISTANT LECTURESHIP IN APPLIED MATHEMATICS

Applications are invited for a post of Lecturer/Assistant Lecturer in Applied Mathematics expected to be established in the Department of Mathematics in September, 1978. Candidates should have a keen interest in areas related to operations research and/or numerical analysis and be able to teach undergraduate courses in these subjects.

Annual salaries (superannuable) are: Lecturer HK$[illegible]; Assistant Lecturer [illegible]. [illegible]

Further particulars and application forms may be obtained from the Association of Commonwealth Universities (Appts.), 36 Gordon Square, London WC1H 0PF, or the Assistant Secretary (Recruitment), University of Hong Kong, Hong Kong.

Closing date for applications [illegible] 1978.

HULL
THE UNIVERSITY

AUDIO VISUAL CENTRE

VIDEO TRAINING SUPERVISOR

Applications are invited for the above post which is available immediately. Candidates should have an H.N.C. or equivalent qualification, and television experience in operations and maintenance in broadcast and/or educational television. Salary will be on the Grade 5 scale for University Technical Staff [illegible]. Applications, giving details of age, qualifications, experience and the names of two referees, should reach the Personnel Officer, University of Hull, Hull HU6 7RX, by April 14. Further particulars are available.

HULL
THE UNIVERSITY

DEPARTMENT OF SCANDINAVIAN STUDIES

Applications are invited for a TEMPORARY LECTURESHIP in SCANDINAVIAN STUDIES for one year. Candidates should have an Honours Degree, including qualification in Swedish.

Salary Scale: £3,333 to £6,655 per annum (under review).

Applications (six copies) giving details of age, qualifications and experience, together with the names of three persons to whom reference may be made should be sent by 31st March, 1978, to the Registrar, The University of Hull, Hull HU6 7RX from whom further particulars may be obtained.

HULL
THE UNIVERSITY

DEPARTMENT OF ENGLISH

Applications are invited from GRADUATES for the post of RESEARCH ASSISTANT, for the study of documents in the Tennyson Research Centre, Lincoln, under the general direction of Professor A. Pollard. Specialisation in the Victorian period is essential and bibliographical and other editorial experience will be an advantage.

This is a one-year appointment on the salary scale £2,901 to £3,190 per annum, plus U.S.S./U.S. benefits.

Applications (four copies) giving details of age, qualifications and experience together with the names of two referees should be sent by 31st March, 1978, to the Registrar, The University of Hull, Hull HU6 7RX, from whom further particulars may be obtained.

LANCASTER
THE UNIVERSITY

DEPARTMENT OF EDUCATIONAL RESEARCH

Applications are invited for the post of LECTURER in the above department to contribute to undergraduate and postgraduate courses in the social history of education in Britain in the twentieth century. The undergraduate courses are for teacher training courses and form part of the B.A. degree programme. The postgraduate side consists of a taught M.A. course attended by secondment teachers and lecturers as well as immediate post-graduates, and a substantial number of research students.

A strong interest in research is required as well as the ability to teach effectively at both undergraduate and postgraduate levels. The post provides an opportunity for developing the study of the historical background of significant developments in the educational system (including post-secondary education) in such areas as educational policy, the curriculum, the management and control of the system, the impact of social change upon education, etc.

Further particulars may be obtained (quoting reference L20/A) from the Establishment Officer, University House, Lancaster LA1 4YW, to whom applications (six copies), naming three referees, should be sent not later than April 6, 1978.

LANCASTER
THE UNIVERSITY

Applications are invited for a second post of LECTURER IN ENGLISH LITERATURE within the School of English. Preference will be given to candidates having a special interest in American Literature and an ability to teach, additionally, within the general field of English Literature. Salary on the scale £3,333 to £6,655 (under review).

Further particulars may be obtained (quoting reference L.30/C) from the Establishment Officer, University House, Bailrigg, Lancaster, LA1 4YW, to whom applications (five copies) naming three referees should be sent not later than 7th April 1978.

MANCHESTER
THE UNIVERSITY

LECTURESHIP IN EDUCATION (APPLIED PHYSICS/ENGINEERING SCIENCE)

Applicants are invited from candidates with good academic qualifications and teaching experience in the area of Applied Physics, Technology and/or Engineering Science. An advanced qualification in some area of educational studies will be a strong recommendation.

Salary range p.a. £3,333 to £6,655 per annum (under review).

Particulars and application forms (returnable by 8th March) from the Registrar, The University, Manchester, M13 9PL. Quote ref. 38/78/THES.

LAMPETER
UNIVERSITY OF WALES

SAINT DAVID'S UNIVERSITY COLLEGE

LECTURER IN ARCHAEOLOGY

Applications are invited for the post of Lecturer in Archaeology. Candidates should have a research interest in the Archaeology of the British Neolithic or Bronze Age. [illegible]

Salary scale £3,333 to £6,655 per annum (under review), plus superannuation. The appointment will be made within the first three points of the scale.

Further particulars and application forms from the Academic Registrar, Saint David's University College, Lampeter, SA48 7ED. Closing date 10th April, 1978.

LONDON
THE UNIVERSITY

BEDFORD COLLEGE

LECTURER IN PHILOSOPHY

Applications are invited for a Lectureship in Philosophy from 1st October, 1978.

Gross salary range £3,333 per annum to £7,105 per annum (under review).

Particulars and application form (returnable by 21 April) available from Senior Assistant Secretary (Personnel), Bedford College, Regent's Park, London NW1 4NS (Tel. 486 4400, Ext. 529).

LONDON
THE UNIVERSITY

ROYAL HOLLOWAY COLLEGE

PART-TIME LECTURER IN DRAMA AND THEATRE STUDIES

Applications are invited for this post tenable from October 1, 1978. The work involves supervising practical theatre exercises and productions related to drama studies. A degree in Drama or English an advantage but preference will be given to candidates with some experience in practical theatre.

Salary will be calculated pro rata the full time £3,333 to £6,655 (under review) plus £450 London allowance. Appointment will be made up to but not above the third point (i.e. £3,781).

Please apply for further details to Mrs. D. J. Hogg, Royal Holloway College, Egham Hill, Egham, Surrey TW20 0EX.

Closing date April 8, 1978.

LONDON
THE UNIVERSITY

ACCOMMODATION OFFICER

Applications are invited for the above post involving responsibility for the management of the University's Accommodation Office which annually assists over 5,000 undergraduate and postgraduate students to find suitable living quarters.

Applicants should have had experience in a similar capacity and/or in housing management.

Salary, according to experience and qualifications, will be within the range for Administrative Officers (Grade II £3,423 to £6,655) plus £450 London Allowance (scale under review).

Further particulars obtainable from Mrs. D. Croucher (THES), University of London, Senate House, Malet Street, London, WC1E 7HU. Tel. 01-636 8000, extension 129. Closing date for receipt of applications is 14th April 1978.

Universities continued

LONDON
THE UNIVERSITY

LONDON SCHOOL OF ECONOMICS

TEMPORARY LECTURESHIP(S) IN ACCOUNTING

Applications are invited for appointment for the 1978-79 session to one or more Temporary Lectureships in Accounting on the salary scale for lecturers (under review) of £3,333 to £6,655 a year plus £450 a year London Allowance, and superannuation benefits. In assessing the starting salary, consideration will be given to qualifications, age and experience.

Applications should be received not later than 13th April 1978 by the Administrative Officer, Room H 616, The London School of Economics and Political Science, Houghton Street, London, WC2A 2AE, from whom application forms may be obtained.

LONDON, E.C.1
THE CITY UNIVERSITY

CAREERS ADVISER

Applications are invited from men and women graduates in any subject for an additional (third) post as Careers Adviser in the Careers and Appointments Service at The City University, London. Previous employment of at least five years is essential, and experience and/or training in the vocational guidance of young people, particularly in the higher education sector, will be a considerable advantage.

Initial salary will be on the scale £2,927 to £5,663 per annum (under review) plus £450 per annum at a point depending on experience and qualifications. The successful candidate will be expected to take up the post as soon as possible.

Further particulars can be obtained from the Personnel Office, The City University, St. John Street, London EC1V 4PB. Telephone Mrs. K. Lowder on 01-253 4399, extension 354. Applications should be returned by 23rd March, 1978.

LONDON
BEDFORD COLLEGE (University of London)

DEPARTMENT OF MATHEMATICS

Applications are invited for the following post:

LECTURER with special qualifications in Quantum Field Theory or related areas of Mathematics. Candidates should hold an Honours or Special Degree in Mathematics, or possess other appropriate qualifications in the named fields.

Gross salary scale: £3,800 to £7,105 per annum (under review). Particulars and application form (returnable by 17th April) available from Senior Assistant Secretary (Personnel), Bedford College, Regent's Park, London NW1 4NS (Telephone 01-486 4400 Ext. 312).

LONDON
THE UNIVERSITY

GOLDSMITHS' COLLEGE
New Cross
London SE14 6NW

Applications are invited for a LECTURESHIP in POLITICAL THEORY and INSTITUTIONS to teach on the University of London B.A. Honours Degree in Social Science and Administration with effect from 1st September, 1978. The successful applicant will be responsible for teaching modern political theory (part of a compulsory finals paper in Social and Political Theory) and would also be responsible for teaching a course on politics and government as an introduction to Social and Public Administration which is compulsory course examined in the second year.

Salary is on Lecturer Grade II scale of Salaries for Teachers in Establishments for Further Education. London Allowance payable.

Write for further particulars, enclosing a medium sized S.A.E. to the Personnel Officer, to whom applications should be sent by 7th April, 1978.

LONDON
THE UNIVERSITY

THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

DIRECTOR - BUSINESS HISTORY UNIT

A Unit for the study of Business History, which will be the first of its kind in the United Kingdom, is to be established in the University of London, based at the London School of Economics and Imperial College.

Applications are invited for the post of Director, tenable at the London School of Economics, at a salary within the professorial range, but not less than £8,310 (scale subject to review) plus £450 per annum London Allowance and superannuation benefits. Applications will be welcomed from candidates within and outside the universities, provided they have appropriate publications to their credit. The appointment will take effect as soon as possible, in any case, it is hoped, not later than 1 October, 1978. The Director will be required to promote research, to arrange seminars, and to assist in the Unit both academically and within the business world. The appointment calls for high academic and practical ability, energy and initiative. The period of appointment will not exceed seven years in the first instance.

Application forms and further particulars are available from the Administrative Officer, Room H.616, The London School of Economics, Houghton Street, London WC2A 2AE. Closing date for application: April 8, 1978.

LONDON
THE UNIVERSITY

CHAIR OF ECCLESIASTICAL HISTORY AT KING'S COLLEGE

The Senate invites applications for the above Chair. Candidates should obtain further information from the Academic Registrar (THES), Senate House (Room 121), Malet Street, London WC1E 7HU, before submitting applications (10 copies). Closing date 21st April, 1978.

LONDON
THE UNIVERSITY

THE LONDON SCHOOL OF ECONOMICS

TWO LECTURESHIPS IN THE DEPARTMENT OF SOCIAL SCIENCE AND ADMINISTRATION

Applications are invited for two Lectureships. The persons appointed will be required to teach in one of the following areas: theory and practice of social work, psychology and its application to social work, social policy and its application to social work. Research experience is essential.

The Lecturers will be expected to participate in course administration and the development of a new two-year M.Sc. course in Social Policy and Social Work Studies and in supervising the professional development of students.

Appointments will be on the salary scale for Lecturers (under review) of £3,333 to £6,655 a year plus £450 a year London Allowance and superannuation benefits. In assessing the starting salary consideration will be given to qualifications, age and experience.

Applications should be received not later than 21st April 1978 by the Administrative Officer, Room H 616, The London School of Economics and Political Science, Houghton Street, London, WC2A 2AE, from whom application forms and further particulars may be obtained.

LONDON
THE UNIVERSITY

GOLDSMITHS' COLLEGE
New Cross, London SE14 6NW

SENIOR LECTURER IN ADULT EDUCATION (GENERAL STUDIES)

Applications are invited from men and women with experience of Adult Education for this new post with effect from 1st September, 1978, or as soon as possible thereafter. It will carry responsibility for:

(a) Maintaining and developing the General Adult Studies section of the evening class programme, including liaison with the Extra-mural Department of the University of London.

(b) Acting as organising tutor in a part-time course in adult teaching.

Salary is on Senior Lecturer Scale of Salaries for Teachers in Establishments for Further Education. London allowance payable.

Write for further particulars, enclosing a medium sized S.A.E. to the Personnel Officer, to whom applications should be sent by 7th April, 1978.

MANCHESTER
THE UNIVERSITY

INSTITUTE OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

A SPECIAL RESEARCH ASSISTANT is required (male or female) to work on a one year research contract investigating advanced batch manufacturing system design. Digital simulation techniques will be used in this work and a high level of proficiency in the use of the GPSS simulation language is essential. Experience of highly automated batch manufacturing systems design work would be desirable.

Salary up to £3,333 per annum on Range IB.

Application forms and further particulars obtainable from the Registrar, UMIST, P.O. Box 88, Manchester M60 1QD, by quoting reference ME 35/78. Closing date for applications, March 31, 1978.

NEWCASTLE UPON TYNE
THE UNIVERSITY

READER IN ECONOMICS

Applications are invited for the post of Reader in Economics, tenable in the Department of Economics from 1st October 1978. The person appointed to the post will be expected to make a major contribution to research in the Department as well as taking part in the teaching of undergraduate and postgraduate students. There is no restriction on the field of specialisation in economics from which the successful applicant may be selected.

Salary will be at an appropriate point on the Readers' Scale £6,435 to £7,951, which is currently under review, according to age, qualifications and experience. Membership of the appropriate University superannuation scheme will be required.

Further particulars may be obtained from the Registrar, The University, Newcastle upon Tyne NE1 7RU, with whom applications (15 copies) giving the names and addresses of not more than three referees, should be lodged not later than 10th April, 1978. (Applicants from outside the British Isles may submit one copy only.)

SHEFFIELD
THE UNIVERSITY

DEPARTMENT OF GERMANIC STUDIES

Applications are now invited for the one-year M.A. IN GERMAN LANGUAGE STUDIES beginning October, 1978.

For further details, write to: Mr. J. Ralson, Faculty of Arts Office, University, Sheffield S10 2TN. Quote reference R85 DI.

NEWCASTLE UPON TYNE
THE UNIVERSITY

SCHOOL OF EDUCATION

LECTURER IN SPEECH

Applications are invited from men and women for an established LECTURESHIP in SPEECH. Candidates must be qualified and experienced speech therapists able to make a contribution in one or more of the following areas: language handicap in childhood, aphasia, neurological disorders, psycholinguistics. The successful applicant should be willing and able to undertake research. It is hoped the person appointed will take up duties on 1st September, 1978.

Salary will be at an appropriate point on the Lecturers' Scale £3,333 to £6,655 per annum (under review) according to qualifications and experience. Membership of the appropriate University superannuation scheme will be required.

Further particulars may be obtained from the Registrar, The University, 6 Kensington Terrace, Newcastle upon Tyne, NE1 7RU, with whom applications (three copies) together with the names and addresses of three persons to whom reference may be made, should be lodged not later than 3rd May, 1978. Please quote reference HHS.

SOUTHAMPTON
THE UNIVERSITY

ADMINISTRATIVE ASSISTANT

SECRETARY AND REGISTRAR'S DEPARTMENT

Applications are invited from suitably qualified persons for the post of Administrative Assistant in the Secretary and Registrar's Department. The duties, which are expected to be wide-ranging, will include responsibility for servicing a number of University committees, and previous relevant experience, particularly in a University, is essential.

Salary on scale 1A £2,901 to £3,627 (under review).

Further particulars are available from Mr A. J. Small (Southampton 559122, ext. [illegible]), The University, Southampton SO9 5NH, to whom applications (four copies) should be sent not later than April 6, 1978. Please quote reference 76/90 A THES.

SURREY
THE UNIVERSITY

DEPARTMENT OF HOTEL, CATERING AND TOURISM MANAGEMENT

LECTURER IN ECONOMICS/TOURISM

The person appointed to the above post will be expected to teach in all stages of the B.Sc. (Honours) degree course in Hotel and Catering Administration, and in the Postgraduate Diploma/M.Sc. course in Tourism. He/She should have a good degree in economics, preferably a higher degree or research experience, and should have demonstrable knowledge or experience of tourism or a closely related field. While any specialism is welcome, applications from persons with a strong interest in microeconomics and a commitment to research would be particularly acceptable.

Salary will be within the range £3,333 to £6,655 per annum (under review), with superannuation under USS conditions.

Further particulars of the post may be obtained from the Academic Registrar (LTD), University of Surrey, Guildford, Surrey GU2 5XH, or telephone Guildford 71281, Extension 452. Applications, from men and women, in the form of a curriculum vitae, including the names and addresses of two referees, should be sent to the same address by 31 March, 1978.

READING
THE UNIVERSITY

LECTURESHIP IN ENGLISH

Applications are invited for a LECTURESHIP in ENGLISH from candidates who have a special interest in English Literature of the 19th and 20th centuries.

The person appointed should take up duties on October 1, 1978.

Further information may be obtained from the Registrar, (Room 214, Whiteknights House), The University, Whiteknights, Reading RG6 2AH, by whom applications should be received not later than April 29, 1978.

READING
THE UNIVERSITY

LECTURESHIP IN HISTORY

Applications are invited for a LECTURESHIP IN HISTORY from persons with interests in medieval British history.

The person appointed should take up duties on September 1, 1978 or such other date as may be arranged.

Further information may be obtained from the Registrar, (Room 214, Whiteknights House), The University, Whiteknights, Reading RG6 2AH, by whom applications should be received not later than April 14, 1978.

READING
THE UNIVERSITY

DEPARTMENT OF CONSTRUCTION MANAGEMENT

Applications are invited for a LECTURESHIP in the DEPARTMENT of CONSTRUCTION MANAGEMENT from suitably qualified candidates with experience of the construction industry. A background in either quantity surveying or structural engineering is appropriate, though other experience is not precluded.

The person appointed should take up duties on October 1, 1978.

Further information may be obtained from the Registrar (Room 214, Whiteknights House), The University, Whiteknights, Reading RG6 2AH, by whom applications should be received not later than April 29, 1978.

THE OPEN UNIVERSITY

SENIOR COUNSELLORS

Applications are invited for three Senior Counsellor posts in the University's London Region, the headquarters of which are at Parsifal College, Finchley Road, London, NW3.

Senior counsellors are responsible to their Regional Director for aspects of student services in the region, including the development of student counselling services, the supervision and training of part-time staff and the oversight of study centres. In addition, senior counsellors will be involved in day and residential schools.

Applicants should be graduates with recent experience from within the broad field of adult further or higher education. They should be interested in the development and analysis of support services for the adult learner in the multi-media teaching system of the university.

It is expected that at least one of the appointments will be made in the lowest quartile of the Lecturer Scale £3,333 to £6,655 (under review).

Application forms and further particulars are available, by postcard request please, from The Personnel Manager (AA21), The Open University, P.O. Box 75, Walton Hall, Milton Keynes, MK7 6AL, or by telephone from Milton Keynes 63868 (24-hour answering service). Closing date for applications, 11th April, 1978.

READING
THE UNIVERSITY

PROFESSORSHIP AT THE NATIONAL COLLEGE OF FOOD TECHNOLOGY

Applications are invited for a newly-established Professorship at the National College of Food Technology, which is part of the University of Reading.

Candidates should preferably have qualifications and experience relevant to the development of teaching and research in Food Engineering, or Biotechnology/Biochemical Engineering, or Food Quality Assurance, but candidates with special interests outside these fields are invited to apply.

The appointment will begin on 1st October 1978 or such other date as may be arranged.

Further information may be obtained from the Registrar (Room 214, Whiteknights House), The University, Whiteknights, Reading RG6 2AH, by whom applications should be received not later than 6th May 1978.

Polytechnics

HATFIELD
THE POLYTECHNIC

SCHOOL OF ENGINEERING

LECTURERS GRADE II IN ELECTRICAL AND ELECTRONIC ENGINEERING

Ref. [illegible]. To teach mainly in the area of engineering measurements and instrumentation primarily at degree and diploma level.

Ref. [illegible]. To teach at degree and diploma level on Electrical and Electronic Engineering courses and to participate in postgraduate work in one of the following specialist areas: microelectronics, the application of LSI devices, signal processing, microwaves.

These appointments will normally be on a full-time permanent basis. In the case of one, however, consideration may be given to a suitably qualified candidate able to accept a part-time or temporary appointment.

Candidates will be expected to possess an honours degree in a relevant engineering discipline and preference will be given to those with appropriate industrial experience.

Salary scale: LII £3,894 to £5,673 (bar) to £6,597 per annum inclusive.

Application forms and further details are obtainable from the Staffing Officer, The Hatfield Polytechnic, P.O. Box 109, Hatfield, Herts., or Tel. Hatfield 68100 Ext. 309.

Closing date 31st March. Please quote reference number.

HATFIELD
THE POLYTECHNIC

SCHOOL OF NATURAL SCIENCES

LECTURER/TEMPORARY LECTURER IN PSYCHOLOGY

(2 posts)

Applicants are invited for a lectureship and a temporary lectureship in Psychology. The lectureship will be on the Lecturer grade II scale and it is expected that the appointment will be filled in Social or Occupational Psychology. An interest in economics and/or the social psychology of industry, or organizations, will be an advantage. Applicants with a strong research interest in Physiological Psychology or Animal Learning will also be considered. The lecturers will contribute to the teaching of students on the B.Sc. Honours Degree in Psychology and the proposed M.Sc. in Occupational Psychology.

The temporary lectureship is for one year and the person appointed will be required to teach Experimental Psychology (Perception) at an Honours level.

Salary scale: LI £3,570 to £5,010 inclusive. LII £3,894 to £5,673 (bar) £6,597 inclusive.

Further details and application forms from: The Staffing Officer, The Hatfield Polytechnic, P.O. Box 109, Hatfield, Herts AL10 9AB.

Closing date: 10th April, 1978. Please quote reference 977/L1/LB.

LANCHESTER POLYTECHNIC
Coventry - Rugby

Assistant Director (Administration)

Salary Scale £8,321 to £9,802

Applications are invited for this post which will rank next in seniority to the Deputy Director. The person appointed will be a member of the Directorate with administrative responsibilities across the whole organisation of the Polytechnic.

Applicants will be expected to have had proven experience in the administration of higher education or other relevant local government experience, including significant management responsibilities. The successful applicant should be a graduate and have, as a minimum, a broad appreciation of academic matters appertaining to higher education, and preferably previous experience of work in a higher education establishment.

Application forms and further particulars may be obtained from the Director of Education, New Council Offices, Earl Street, Coventry. Telephone (0203) 25555 Ext. 2292 and are returnable by 3rd April, 1978.

ULSTER COLLEGE
THE NORTHERN IRELAND POLYTECHNIC

Faculty of The Arts

READER IN HISTORY

Salary Scale, £6,432 to £8,070

The post is in the School of Philosophy, Politics and History. Candidates are required to have considerable experience in organising postgraduate work and to possess competence in industrial and commercial history.

The Polytechnic is a direct grant institution with an independent Board of Governors. It opened in 1971 and now has a student population of some 7,100. It has extensive new purpose built accommodation, including 750 residential places on the 114 acre campus overlooking the sea at Jordanstown, a pleasant and quiet residential area. There is a scheme of assistance with removal.

Further particulars and application forms which must be returned by March 29 may be obtained by telephoning Whiteabbey (0231) 65131, ext. 2243 or by writing to:—

The Establishment Officer, Ulster College, The Northern Ireland Polytechnic, Shore Road, Newtownabbey, Co Antrim BT37 0QB.

PRINCIPAL LECTURER IN LAW

£5,940 to £6,642 (Bar), £7,670 plus supplements of £492

The successful applicant will be responsible for the preparatory work leading to the establishment of the course for the proposed new Part II examination of The Law Society and for the administration of the course subsequent to its establishment. Applicants should possess an honours degree in law, have relevant teaching experience and be qualified solicitors.

Further details and form of application from the Chief Administrative Officer, Trent Polytechnic, Burton Street, Nottingham. Closing date April 3, 1978.

TRENT POLYTECHNIC NOTTINGHAM

North Staffordshire Polytechnic

West Midlands Regional Management Centre

Vacancies exist for lecturing staff who will join the Department of Management Studies of the Polytechnic in developing the activities of the recently designated West Midlands Regional Management Centre.

Applicants (male/female) should have relevant industrial experience, and possess a degree in Management or allied subjects (preferably at Masters level). Experience in research and/or management education activities is desirable. Applicants should also be able to offer subject specialisms in one of the following areas:

Business Policy and Management Economics; Organizational Theory and Human Behaviour; and Marketing.

Appointments will be at Senior Lecturer/Lecturer II level depending on qualifications and experience.

Salary: Senior Lecturer, £5,323-£6,447 (bar)—£6,909; Lecturer II, £3,771-£5,985.

Application forms and further particulars may be obtained from: Deputy Director (Staffing), North Staffordshire Polytechnic, College Road, Stoke-on-Trent ST4 2DE.

NORTH STAFFORDSHIRE POLYTECHNIC
College Road, Stoke on Trent

RESEARCH ASSISTANT

Applications are invited from persons with a good honours degree in Engineering or Physics for the post of Research Assistant in the Physics/Mining Departments at the Stoke site of the Polytechnic. The research is concerned with the investigation of the noise, vibration and efficiency of pneumatic rock drills. The project has the support of the National Coal Board. Registration for a higher degree will be expected. The appointment is for an initial period of two years which may be extended to three years.

Salary: £2,482 per annum including supplements.

Application forms and further particulars may be obtained from The Establishment Officer, North Staffordshire Polytechnic, College Road, Stoke on Trent, ST4 2DE.

Closing date: Monday, 10th April 1978.

Polytechnics continued

KINGSTON POLYTECHNIC
Gipsy Hill Centre

LECTURER II/SENIOR LECTURER in MUSIC

Applications are invited from musicians, preferably with a higher degree and school experience, to join a full-time staff of seven in the expanding Music Centre. The successful candidate will be expected to share the teaching at degree level of practical, composition, orchestration and general musicianship and to take choral workshops.

Salary range to include 1978 and 1977 supplements, £3,741-£6,969 plus London allowance £297.

Further details and application forms (to be returned by 17th April) from Academic Registry, Dept. AG, Kingston Polytechnic, Penrhyn Road, Kingston upon Thames KT1 2EE. 01-549 1366.

Brighton Polytechnic

FACULTY OF ENGINEERING AND ENVIRONMENTAL STUDIES

Head of Department of Building

£7,887-£8,680

Professional and academic experience essential at a level commensurate with developing a B.Sc. (Honours) course in Building and promoting relevant research projects.

Application forms and further details from Personnel Officer, Brighton Polytechnic, Moulsecoomb, Brighton BN2 4GJ. Tel. (0273) 693655 Ext. 2537. Closing date 7th April, 1978.

LONDON
THE POLYTECHNIC OF THE SOUTH BANK

Department of Estate Management

LECTURER(S) IN VALUATIONS

Part-time LECTURER(S) required commencing in April to assist the full-time staff in their Valuation course leading to diploma and professional course and also in the teaching of the Unit Trust examination.

Inquiries to R. T. H. Goodyer, Department of Estate Management, Polytechnic of the South Bank, Wandsworth Road, London SW8 2JY (Phone 01-720 2020, Ext. 2410).

MANCHESTER
THE POLYTECHNIC
FACULTY OF MANAGEMENT AND BUSINESS

LECTURER IN ACCOUNTANCY

Required to teach Management Accounting and Financial Management to a range of examinations and undergraduate and postgraduate courses in the Faculty. Candidates should hold a degree and/or a recognised professional qualification and have had significant industrial or consulting experience. The successful candidates will be expected to develop links with industry and to contribute to research on a personal basis or as contributors to a group research departmental programme. All staff are expected to contribute to course administration. The appointment is normally to lecturer level but candidates may be appointed to senior lecturer level subject to meeting laid down criteria.

Salary scale: Lecturer II £5,229 to £6,195 plus £363 per annum supplement.

For further particulars and application form (returnable by 31st March, 1978) please send a self-addressed envelope (size 9" x 4") to the Secretary, Manchester Polytechnic, All Saints Building, Manchester M15 6BH.

MANCHESTER
THE POLYTECHNIC
INSTITUTE OF ADVANCED STUDIES

Applications are invited for the post of DEAN of the Institute.

The Institute of Advanced Studies is a centre for enhancing the significance of its individual research work and advanced study throughout the Polytechnic by fostering projects in which various disciplines are involved.

The work of the Institute has involved some of the most gifted staff and the Dean therefore needs to be an imaginative person of wide interest and experience and to be particularly skilled in presiding at and maintaining good relationships.

Salary scale: Head of Department Grade VI £8,097 to £8,913 plus supplements up to £1,062 per annum.

For further particulars and application forms (returnable by 31st March, 1978) please send a self-addressed envelope (size 9" x 4") to the Secretary, Manchester Polytechnic, All Saints Building, Manchester M15 6BH.

LONDON
MIDDLESEX POLYTECHNIC

SSRC RESEARCH STUDENTSHIP IN GEOGRAPHY

Applications are invited from students wishing to take up an SSRC quota award for full-time study leading to an MPhil/PhD (CNAA) in Geography and Planning from September 1978. The quota is restricted to students wishing to undertake research training in the area of either industrial location studies or environmental appraisal.

Details and information about application procedures (fees, grants, etc.) from: Assistant Dean, Middlesex Polytechnic, Queensway, Enfield, London EN3 4SF. Closing date March 24th.

LONDON E15
NORTH EAST LONDON POLYTECHNIC

FINANCE OFFICER (PROGRAMME)

We require a resourceful person with organisational ability for the above vacancy in the Faculty of Humanities, located at our Stratford Precinct.

The appointee will be responsible to the Dean and the Faculty Administrative Officer for all financial transactions and records in the Faculty, inc. Visual Arts and Drama courses. Relevant experience is necessary and some aptitude for financial work is desirable.

Initial annual salary will range from £4,164 to £4,602.

Further information and application forms for the Vacancy are available from the Personnel Officer at Room 3/16, Shaftesbury Building, Stratford Precinct, London E15 2BP (telephone 01-555 8811 ext. 2202). Please quote reference A 78/28.

Closing date: 31st March, 1978.

HATFIELD
THE POLYTECHNIC
EDUCATIONAL TECHNOLOGY

LECTURER II

To contribute from 8 September, 1978, or sooner by agreement, to a unit which provides courses (initiation to M.Ed.) above and particularly in Audio-visual communications.

Applicants, who should have good teaching experience, should be qualified to contribute to courses in creative thinking and also in our various studies.

Salary scale: £3,861 to £5,223 (under review) or £5,547 to £6,567 p.a. inclusive.

Application forms and further details are obtainable from the Staffing Officer, The Polytechnic, P.O. Box 109, College Lane, Hatfield, Herts. AL10 9AB, to whom completed forms should be returned.

Closing date: March 31st. Please quote reference 7/78.

PORTSMOUTH
THE POLYTECHNIC

SENIOR LECTURER/ LECTURER II in ACCOUNTING

GRADUATE (male or female) required, preferably with professional accountancy qualification and of a relevant business background.

Specialist interest in international accounting and finance, or quantitative methods an advantage.

Salary according to age and experience up to a maximum of £6,567 per annum.

Application forms and further particulars may be obtained from the Staff Officer, Portsmouth Polytechnic, Queen Alexandra House, Museum Road, Portsmouth, PO1 2QQ, to whom completed applications should be returned by 31st March, 1978. Please quote ref. F/78.

KINGSTON
THE POLYTECHNIC
DIVISION OF EDUCATIONAL STUDIES

RESEARCH ASSISTANT

To participate in a study of Training Education for Foreign Languages. The project is located at the Glow Hill Centre under the direction of Dr. H. Lewis.

Candidates should have a good Honours degree in Education or one of the Social Sciences, though graduates with other degrees will be considered. Experience of educational research would be an advantage.

The position will entail considerable travel in the Schools and will involve some travel abroad.

Salary range £2,673 to £2,967 including supplements per London allowance.

Further details and application form (returnable by 31 March) available, please send a self-addressed envelope (size 9" x 4") to The Secretary, Kingston Polytechnic, Penrhyn Road, Kingston upon Thames KT1 2EE. 01-549 1366.

COVENTRY
LANCHESTER POLYTECHNIC
FACULTY OF ART AND DESIGN

DEPARTMENT OF ART HISTORY AND COMBINED STUDIES

LECTURER (Grade II) SENIOR LECTURER IN ART HISTORY AND CULTURAL STUDIES

Required for a newly approved B.A. Honours degree in Complementary Studies. The successful candidate's experience and qualifications will be chiefly located in the cultural studies approach to the mass media and visual arts and he also will contribute substantially in the teaching of this important element in the course.

Candidates should have some teaching experience and preferably be engaged in research.

Salary scales: Senior Lecturer £5,691 to £6,417, plus £180 London allowance per annum.

Lecturer, Grade II £3,570 to £5,085, plus £180 London allowance per annum.

Application form and further particulars are available from the Chief Executive, Lanchester Polytechnic, Priory, Coventry CV1 5FB, returnable within 10 days of the appearance of this advertisement.

LEICESTER
THE POLYTECHNIC

CAREERS AND APPOINTMENTS SERVICE

APPOINTMENTS OFFICER

Salary £5,741 to £6,969 per annum inclusive of supplements under review.

Duties include careers guidance, liaison with employers, academic staff and students, assisting with the administration of the Service, including, or equivalent, required together with knowledge and qualities. Experience in assessing graduates' aptitudes and skills; qualifications management experience an advantage.

Further details and application form from Staffing Officer, Leicester Polytechnic, P.O. Box 143, Leicester LE1 9BH, to whom completed forms should be returned by 31st March, 1978.

LIVERPOOL
THE POLYTECHNIC

DEPARTMENT OF MANAGEMENT STUDIES

(1) LECTURER II SENIOR LECTURER in MANAGEMENT STUDIES

(2) LECTURER II/SENIOR LECTURER in INDUSTRIAL RELATIONS

(3) LECTURER II/SENIOR LECTURER in PRODUCTION AND OPERATIONS MANAGEMENT.

The persons appointed will be required to teach and develop their subjects on diploma and professional courses at undergraduate and postgraduate levels. Applicants should have a good honours degree, demonstrable research interest and, where appropriate, recent industrial experience. Membership of a professional institution will be an advantage.

The position will entail considerable travel in the Schools and will involve some travel abroad.

Salary range £2,673 to £2,967 including supplements per London allowance.

Applicants should hold, or expect to be awarded, a first or upper second class honours degree in a relevant discipline, such as environmental studies, economics, psychology, sociology or geography. Before applying, they should obtain further details from the Examination Planning Unit, Wye College, Wye, Ashford, Kent (Wye 345 ext. 228).

Fellowships and Studentships

ABERDEEN
THE UNIVERSITY

DEPARTMENT OF PSYCHIATRY

RESEARCH FELLOW

Applications are invited for the above post, tenable for three years, to work in Research Units from Honours Psychology Graduates with some post-graduate experience to post-graduate level in investigating psychological aspects of Schizophrenic patients, for 16 months from 1st July.

Salary on Range 1A, £3,762 per annum, plus superannuation.

Further particulars from the Secretary, The University, Aberdeen, to whom applications (three copies) should be submitted by 7th April 1978.

KENT
WYE COLLEGE
(University of London)

COUNTRYSIDE PLANNING UNIT

S.S.R.C. RESEARCH STUDENTSHIPS

Applications are invited for two S.S.R.C. research studentships, tenable from October, 1978, in the Countryside Planning Unit, Wye College, for research into rural planning problems and policies related to the Unit's current research programme, to be undertaken under the general direction of Professor G. C. Cherry and Dr. H. R. Best. Some preference may be given to graduates wishing to work on rural recreation and amenity. Studentships will be tax free and are initially for two years.

Applicants should hold, or expect to be awarded, a first or upper second class honours degree in a relevant discipline, such as environmental studies, economics, psychology, sociology or geography. Before applying, they should obtain further details from the Examination Planning Unit, Wye College, Wye, Ashford, Kent (Wye 345 ext. 228).

Closing date for application: 31st March, 1978.

Fellowships and Studentships

THE INSTITUTE OF CHARTERED SECRETARIES AND ADMINISTRATORS

Applications are invited for the

POSTGRADUATE EXHIBITION 1978

This award, value £1,000 is for one year of postgraduate study or research in a range of subjects relating to business/public administration or management. The Exhibition is tenable at any University or Polytechnic in the United Kingdom. Further details and application forms from:

The Secretary, (ref. PEX/TES), Institute of Chartered Secretaries and Administrators, 16 Park Crescent, London W1N 4AH.

ABERDEEN
THE UNIVERSITY

DEPARTMENT OF POLITICAL ECONOMY

SOCIAL SCIENCE RESEARCH COUNCIL STUDENTSHIP FOR RESEARCH TRAINING

Applications are now invited for the above studentship tenable in the Department of Political Economy for two years from October 1978. Preference will be given to candidates with interests in the fields of environmental economics, political economy, energy policy, North Sea oil and gas development, energy finance, but the Department also has studentship research activity in the fields of labour economics, regional economics and health economics.

For further details and application forms write to Alyn H. Shaw, Department of Political Economy, University of Aberdeen, Old Aberdeen, AB9 2TY.

NEWCASTLE UPON TYNE
THE UNIVERSITY

S. T. COLERIDGE STUDENTSHIP IN ENGLISH PHILOLOGY OR LINGUISTICS

Applications are invited for the above-mentioned STUDENTSHIP, tenable from October, 1978.

The value of the Studentship is in line with the basic annual maintenance grant paid by the Department of Education and Science to unmarried students without dependants living at home, with provision of fees and study or research allowance, and is available for two years of study or research in one of the following subjects: English Philology, English Literature, General Linguistics and Philosophy.

The Studentship is open to a graduate of an approved university in the United Kingdom or one who may be honoured by a first class in special circumstances.

Application forms and further particulars may be obtained from the Registrar, 6 Kensington Terrace, Newcastle upon Tyne, NE1 7RU to whom completed forms should be returned by 31st May, 1978.

Applicants should be prepared to attend for interview.

CENTRE FOR SCIENCE EDUCATION
CHELSEA COLLEGE
UNIVERSITY OF LONDON

The Centre for Science Education invites applications in undefined periods by under full-time or part-time study leading to the Degrees of M.Phil. or Ph.D. Current areas of interest of the Centre include the classroom management in science and mathematics; the development of skills in secondary mathematics and science; assessment of student performance in science; examinations; the use of computers in the school and undergraduate curriculum; problem solving in science education; history, philosophy and sociology of education and communication studies.

Full-time applicants who possess a first or second class honours degree and, preferably the B.Sc./B.A. (Hons) certificate in education or equivalent, are eligible for the S.S.R.C. quota studentships.

Applicants should send a brief curriculum vitae and an indication of the area of study in which they are interested to Professor J. J. Schwab, Centre for Science Education, Chelsea College, London SW3 6HH. Those wishing to be considered for S.S.R.C. studentships should apply by 30th April, 1978.

SALFORD
THE UNIVERSITY

MODERN LANGUAGES DEPARTMENT

RESEARCH STUDENTSHIP

Applications are invited for a full-time research studentship in the Department for the year 1978-79. The field of study will be in any of those taught by the Department: English, French, German, Italian, Russian and Spanish. The value of the Award will be up to £1,000 plus fees.

For further details, please write to Professor A. Esson, Modern Languages Department, University of Salford, Salford M5 4WT.

Closing date for application: 31st March, 1978.

Colleges and Institutes of Technology

DUNDEE COLLEGE OF TECHNOLOGY
DEPARTMENT OF MATHEMATICS & COMPUTER STUDIES

Applications are invited for the following posts:

SENIOR LECTURESHIP IN STATISTICS
LECTURESHIP IN STATISTICS

The successful candidate for the Senior Lectureship will have a proved research record in the application of statistics to economics and will be required to lead a research group in this area of statistics.

The successful candidate for the Lectureship which is a new post, will be well qualified in statistics, and will be required to develop research interests in the application of statistics to economics.

Salary, including supplements (at present under review):
Senior Lectureship £6,504-£7,230 (bar)-£8,520
Lectureship £4,683-£5,616 (bar)-£6,999

Further particulars and application forms may be obtained from the Administrative Assistant (Establishment), Dundee College of Technology, Bell Street, Dundee, DD1 1HG, with whom applications should be lodged by 10 April, 1978.

Colleges and Departments of Art

DUNCAN OF JORDANSTONE COLLEGE OF ART
Perth Road, DUNDEE

Applications are invited for the post of

HEAD
of Design School

The School is responsible for the following SNAA Honours and Unclassified Degree Courses:
VISUAL COMMUNICATIONS:
(i) Graphic Design
(ii) Illustration and Printmaking

DECORATIVE DESIGN:
(i) Printed Textiles
(ii) Woven Textiles
(iii) Embroidery

THREE-DIMENSIONAL DESIGN:
(i) Jewellery and Silversmithing
(ii) Ceramics
(iii) Product Design

INTERIOR DESIGN

The person appointed will be expected to have appropriate administrative and professional abilities, broad interests in the Design and Craft areas, and be a person of vision regarding the field of Design in Higher Education.
Application forms and further information may be obtained from the College Secretary, Duncan of Jordanstone College of Art, Perth Road, Dundee DD1 4HT, to whom applications must be submitted not later than 31st March, 1978.

Colleges of Higher Education

Gwent College of higher education — coleg addysg uwch Gwent — FACULTY OF ART AND DESIGN

Senior Lecturer/ Course Director in Fashion

Salary: £8,523-£6,467 (Progression by two increments to £6,999, subject to standard of work)

A very special person is being sought for the position of Creative Design Tutor in the Fashion area of the Gwent College of Higher Education, Faculty of Art and Design (formerly Newport College of Art and Design). The person appointed to this junior post will be the Course Director designate with the responsibility for high-level design tuition. He or she will also have a considerable influence on future course development in a changing situation.

Further information and application form, returnable within 14 days of the appearance of this advertisement from **The Principal Administrative Officer, Gwent College of Higher Education, College Crescent, Caerleon, NEWPORT, Gwent NP6 1XJ. Telephone: (0633) 421292.**

PADGATE COLLEGE OF HIGHER EDUCATION

LECTURER II
in Audio-Visual Communication/Educational Technology

Applications are invited for this new post for September, 1978, arising from extension in the subject, which has been offered for many years as an option within the Initial B.Ed degree and, more recently, the B.Ed. with Honours in Education for serving teachers. Since 1976 these have been joined by Higher Education and B.A. degree programmes in Media and Communication - including work in Audio-Visual Communication and a Professional Education Course in "functional communications" - to which the person appointed might be expected to contribute. Functional communications covers the professional aspects of the communications industry and involves the students in a period of attachment to industry, commerce or public service.

In addition to a sound practical knowledge of media, high academic qualifications are required to ensure recognition for honours degree teaching by the University of Manchester.

Forms of application and further particulars may be obtained from the Principal, Padgate College of Higher Education, Fearnhead, Warrington WA2 0DB, and should be returned as soon as possible.

Closing date for applications, Friday, 28th April, 1978.

Colleges of Higher Education continued

Buckinghamshire College of Higher Education

Queen Alexandra Road, High Wycombe, Bucks.
Director: D. J. Everett, B.A., F.F.T.Com.

School of Management Studies and Languages

Applications are invited for the following posts, duties to commence as soon as possible:

Senior Lecturer in Law

Candidates (male or female) for this post should be graduates in Law and able to assist in the development of a CNAA degree in European Business Studies. Candidates should have experience of teaching at degree level.

Senior Lecturer in Accounting & Finance

Candidates (male or female) for this post should be qualified accountants and able to contribute to the development of a CNAA degree in European Business Studies. Experience of teaching at degree level is essential and preference will be given to candidates with industrial experience.

Salary Scale: £5,523-£6,447 per annum.

Application form and further details for these posts are available from the Assistant Director, to whom completed forms should be returned as quickly as possible. Tel. No.: High Wycombe 22141.

TORRENS COLLEGE OF ADVANCED EDUCATION

Torrens College of Advanced Education is a multi-discipline college consisting of five schools. In 1976 the college established the School of Performing and Expressive Arts and a course leading to a Bachelor of Arts in Music commenced in 1977. Introduction of courses in Drama and Dance are also planned. A course in Opera commenced in 1978. The college also plans to offer interdisciplinary courses in the performing arts in the future.

Applications are invited for the following positions which may be either full or part-time permanent or contract for a fixed period.

LECTURER IN CELLO
LECTURER IN VIOLA

Applicants would be expected to commence duties at the college at the beginning of the 1979 Academic Year.

Salary Lecturer I 12,782-14,662 dollars
Lecturer II 14,851-16,999 dollars
Lecturer III 17,402-19,551 dollars

Applications, stating age, personal married and salary and giving full details of qualifications, relevant teaching and performing experience, involvement in professional associations, the names and addresses of three referees, approximate date on which duties could be commenced, nature and level of position sought, and any other relevant information should be sent to The Academic Secretary, Torrens College of Advanced Education, Holbrooks Road, Underdale South Australia 5033, to reach him no later than August 31, 1978

CANTERBURY
CHRIST CHURCH COLLEGE

Applications are invited for the post of READER in CATHEDRAL STUDIES in Christ Church College, Canterbury, to take effect from 1st September, 1978. The College is of the standing of a College of Higher education offering courses in Education, B.Ed. degrees, the Certificate in Education, and Diploma courses in Theology, Music and Church Studies.

Salary, Grade I (under review) £5,691 to £6,417 plus £180 London allowance per annum.

Applications and further particulars may be obtained from the Principal, Christ Church College, Canterbury, Kent CT1 1QU, to whom completed forms should be returned by 31st March, 1978.

SUSSEX
WEST SUSSEX INSTITUTE OF HIGHER EDUCATION

incorporating Bishop Otter College, Chichester and Worthing College of Higher Education

LECTURER IN HISTORY

A Lecturer in History is required, initially on a three year contract, to teach in the Humanities Division of a permanently appointed basis. Another appointment is expected to be made in History and Politics.

Applications and further details from the Academic Registrar, West Sussex Institute of Higher Education, Bognor Road, Chichester PO19 4PE, to whom completed forms should be returned by 14th April, 1978.

COLLEGE OF ST. MARK AND ST. JOHN

Derriford Road, Plymouth PL6 8BH
Telephone (0752) 777188

LECTURER II in PHYSICAL EDUCATION

A specialist is required for September 1978 for teaching within the Physical Education Department. Applicants must be graduates with a specialist interest in Physical Education. Duties will include supervision of teaching practice, and participation in teaching courses, which will also involve Physical Education for handicapped children.

Applications are now invited for the post of Graduate Assistant in the Department of Physical Education for the academic year 1978-79. The post will involve the supervision of teaching practice, and participation in teaching courses which will also involve Physical Education for handicapped children. Applicants must have a good honours degree and preferably have had some teaching and/or professional experience.

Salary under review: Lecturer I £5,691 to £6,417; Lecturer II £4,593 to £5,085; plus appropriate supplements and £180 per annum London Fringe Allowance. Generous removal expenses in appropriate cases.

Stamped addressed envelope, please, for further particulars and application forms from the Vice-Principal.

Applications from intending graduates welcomed.

Closing date for applications: 3rd May 1978.

CAMBRIDGE
BROOKSIDE COLLEGE

Will be holding an open week-end course starting on 29th April in the teaching of English as a Foreign Language. Certificate in T.E.F.L. for successful candidates.

Apply to the Vice-Principal, 3 Brookside, Cambridge. Tel. Cambridge 67471.

LONDON, W.1
POLYTECHNIC OF CENTRAL LONDON

ACCESS TO CONTINUED EDUCATION FOR MATURE PERSONS

A one-year CONFERENCE at Polytechnic of Central London, 309 Regent Street, London W.1.

SATURDAY, APRIL 8, 1978 (repeated on Tuesday, April 11th and 18th) 10.00 a.m. to 4.00 p.m. CONFERENCE PROGRAMME:

10.15 Government Policy and Policy Making
10.30 General Trade Union Policy
11.00 Coffee
11.15 Opportunities for Women
12.00 Adult Education Policy and Provision for Adults
12.30 Lunch
2.00 Opportunities for Mature Students in Higher Education (Polytechnic of Central London)
2.30 Opportunities for Mature Students in Higher Education (Stephen Hadland, M.A.(Oxon), and Mrs. Hilda Hadland, M.A.(Oxon))
3.00 Tea
3.30 Question Time
4.00 Close

Application and further details: Short Course Unit, PCL, 309 Regent Street, London, W.1. Telephone: 01-580 2020, ext. 221.

GLASGOW
THE UNIVERSITY

HIGHER DEGREES in THE ECONOMICS OF PUBLIC POLICY

M.Phil. by examination; M.Litt. and Ph.D. by thesis. Full particulars, including information about bursaries and other awards, apply to the Administrative Assistant, The Adam Smith Building, University of Glasgow, Glasgow G12 8RT.

In reply please quote Ref. No. 1/1/3.

Colleges of Further Education

HEREFORD AND WORCESTER EDUCATION COMMITTEE

REDDITCH COLLEGE OF FURTHER EDUCATION

Appointment of

PRINCIPAL

to commence duty on 1st September, 1978.

Salary: £9,639 incl. (Burnham 5)

Redditch is an expanding New Town. The post offers a challenging opportunity to develop the work of the College to give a comprehensive F.E. service to meet the New Town's needs.

Further details from the Clerk to the Governing Body, Redditch College, Redditch, Worcs. B98 8DW, to whom applications should be submitted by 6th April, 1978.

REDDITCH COLLEGE

Bournemouth and Poole College of Further Education

Head of Faculty of Science and Technology
Head of Faculty of Business and General Studies

Burnham Head of Department Grade VI
Salary: £8,037-£8,913 plus supplements of £312 and £180

The College formed by the amalgamation of Bournemouth and Poole Colleges is to be organised in two Faculties. These contain four and five Departments respectively and each will have more than 120 academic staff.

Appointees will be responsible for the management of the Departments within their Faculty, and will also be responsible for control of physical resources on one of the main College sites.

Applicants (male or female) must be graduates with experience of managing a department or substantial unit in a large institution or in industry, and must be interested in the application of modern educational methods to courses mainly of non-advanced standards.

Application forms and further information may be obtained from the Principal, Bournemouth and Poole College of Further Education, North Road, Poole, Dorset BH14 0LS (telephone 0202 747600) to whom completed forms should be returned before 17th April, 1978.

SUFFOLK
COUNTY COUNCIL
LOWESTOFT COLLEGE OF FURTHER EDUCATION

HEAD OF ENGINEERING DEPARTMENT

GRADE III

Applications are invited for the above post. The Department has modern buildings, including workshops, laboratories and computer facilities.

Salary scale £6,231 to £7,005, plus London Allowance of £213 and £180.

Further details and application form from the Principal, Lowestoft College, St. Peters Street, Lowestoft, Suffolk NR32 2NB.

Applications, on the prescribed form, should be received by 31st March, 1978.

BRISTOL
FURTHER EDUCATION STAFF COLLEGE
STAFF TUTOR

Applications are invited for a staff tutorship at Fenside College, Filton, to develop an appropriate working knowledge of industry. The tutor will be expected to make a contribution both practical and theoretical to the college and participate in producing instructional materials in one area of study, development work, TEC, BEC, etc.

Salary on a scale of £7,731 to £8,319 (inclusive of supplements) subject to review.

Further particulars can be obtained from: The Registrar and Clerk to the Governors, Fenside College, Station Road, Filton, Bristol BS12 7AW.

Applications to be received by 31st March, 1978.

Those duly invited to be interviewed will be given reasonable notice of the date.

SURREY
EDUCATION COMMITTEE

NORTH EAST SURREY COLLEGE OF TECHNOLOGY
Reigate Road, Ewell, Surrey

LECTURER I (2) IN CONSTRUCTION TECHNOLOGY/ BUILDING SCIENCE
two posts

LECTURER I (1) IN GENERAL AND COMMUNICATION STUDIES
two posts

LECTURER I IN COMMUNICATION STUDIES AND DRAMA

LECTURER I IN BIOLOGICAL STUDIES

Salary under review: Lecturer I £5,691 to £6,417; Lecturer II £4,593 to £5,085; plus appropriate supplements and £180 per annum London Fringe Allowance. Generous removal expenses in appropriate cases.

Stamped addressed envelope, please, for further particulars and application forms from the Vice-Principal.

Applications from intending graduates welcomed.

Closing date for applications: 3rd May 1978.

HEREFORD AND WORCESTER COUNTY COUNCIL

WORCESTER TECHNICAL COLLEGE

DEPARTMENT OF BUSINESS STUDIES

LECTURER GRADE II
LEGAL STUDIES

Applications are invited for the above post which will involve teaching National and Higher National levels in Business Studies, Legal Executive Fellowship and a wide range of final professional, Accountancy and Management courses.

Applicants should possess a degree in law and/or a professional legal qualification and preferably have had some teaching and/or professional experience.

Salary: Lecturer Grade II, £5,944 to £6,906 (position on scale dependent on experience).

Further details and application forms from the Administrative Assistant, Worcester Technical College, Deansway, Worcester.

Personal

POSTALOANS UNSECURED

£50 to £1,000

RICHMOND INVESTMENTS LTD

4 The Green, Richmond, Surrey. 01-940 9857.

Appointments wanted

HIGHLY qualified university lecturer in Quality Control, Japanese speaks, seeks similar work in Europe. Write Box 3079 V, THES, WC1E 7HU.

ABERDEEN
THE UNIVERSITY
DEPARTMENT OF POLITICAL ECONOMY
ECONOMICS IN THE CONSERVATION OF NATURAL RESOURCES

This one-year taught course, which covers economic analysis and quantitative methods relevant to natural resources and the environment, is designed for graduates who wish to specialise in economics, with a view to undertaking research leading to the degree of M.Litt. or Ph.D. Some scholarships are available for overseas students.

For further details of the course and of the scholarships and for application forms, please write to Dr. R. Shaw, Department of Political Economy, Edward Wright Building, Dunbar Street, Old Aberdeen, AB9 2TY.

Norfolk County Council

Norwich City College
of Further and Higher Education

Ref. HCS1 **HEAD OF DEPARTMENT of HEALTH & COMMUNITY STUDIES (Grade V)**

Ref. HL1 **HEAD OF DEPARTMENT of HUMANITIES & LANGUAGES (Grade IV)**

These are two new departments consequent upon the retirement of Miss O. A. Browning, B.A. and the reallocation of the work of the existing Department of Humanities and Social Studies.

Applications are invited from well qualified graduates, or equivalent, with appropriate educational and professional experience.

The posts are available on 1 September, 1978.

Salary scales:
Grade V £7,887-£8,680 (including supplements)
Grade IV £7,248-£8,124 (including supplements)

Application forms and further particulars may be obtained by sending a large stamped addressed envelope to the College Secretary, Norwich City College of Further and Higher Education, Ipswich Road, Norwich, Norfolk, NR2 2LJ, to whom completed forms should be returned within 14 days of the appearance of this advertisement

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Appointments

SOUTHERN AFRICA
WORLD UNIVERSITY SERVICE (U.K.)

PROJECT OFFICER

This is a new post recently established to assist in the administration, research and publication of WUS's programmes in Southern Africa. Candidates will need to have had experience in producing information publications, preferably in the field of education, as well as research papers.

Applicants, writing from outside the U.K. are invited to send a curriculum vitae and a letter stating their interest in the post.

Salary: Lecturer Grade II, £5,944 to £6,906 (position on scale dependent on experience).

Further details and application forms from the Administrative Assistant, Worcester Technical College, Deansway, Worcester.

Administration

THE OPEN UNIVERSITY
ACADEMIC ADMINISTRATION DIVISION

ADMINISTRATIVE ASSISTANT (ACADEMIC PLANNING)

ADMINISTRATIVE ASSISTANT (ACADEMIC STAFF)

Applications are invited for two appointments in Administrative Assistant in the Academic Administration Division of the Secretary's Department of the University's headquarters at Milton Keynes.

(1) ADMINISTRATIVE ASSISTANT (ACADEMIC PLANNING) will work in the Academic Planning Unit which forms a team of four with support from the University's Academic Planning Officer. Duties will include preparation of papers and reports, servicing of committees and working parties, and the operation of planning data.

(2) ADMINISTRATIVE ASSISTANT (SCIENCE). The person appointed will work in the Faculty of Science as one of the Faculty Secretariat team. The main duties of the post will be concerned with the administration of the Faculty Board and its sub-committees and working groups and the coordination and administration of the Faculty programme.

Applicants for the posts should preferably be graduates and should preferably have some experience in administration. Commencing salary will be within the Review Grade 14 Scale £2,993 to £3,627 per annum under review.

Application forms and further details are available by personal enquiry, phone, or from the Appointments Office, The Open University, P.O. Box 76, Walton Hall, Milton Keynes, MK7 6AG, or by telephone to Milton Keynes (0908) 74066 (24-hour answering service), to whom completed forms should be returned. Those who are interested in closing date for applications: 3 April, 1978.

BRISTOL
FURTHER EDUCATION STAFF COLLEGE
STAFF TUTOR

Applications are invited for a staff tutorship at Fenside College, Filton, to develop an appropriate working knowledge of industry. The tutor will be expected to make a contribution both practical and theoretical to the college and participate in producing instructional materials in one area of study, development work, TEC, BEC, etc.

Salary on a scale of £7,731 to £8,319 (inclusive of supplements) subject to review.

Further particulars can be obtained from: The Registrar and Clerk to the Governors, Fenside College, Station Road, Filton, Bristol BS12 7AW.

Applications to be received by 31st March, 1978.

Those duly invited to be interviewed will be given reasonable notice of the date.

Research Posts

University of Oxford
WELLCOME UNIT FOR THE HISTORY OF MEDICINE

Research Fellow

Applications are invited for the post of Research Fellow at the Wellcome Unit. Candidates should be medically qualified and able to demonstrate a sustained interest in research relating to the history of medicine. The appointee will work primarily in association with the Wellcome Unit. It is hoped that arrangements can be made for him or her to undertake some clinical involvement through an attachment to an appropriate department in one of the Oxford Teaching hospitals, so as to permit access to clinical material, although this would depend on the applicant's research and particular areas of clinical interest.

The appointment will be for one year in the first instance, possibly renewable for a further two years. The salary will be on the scale £4,605-£6,495. Applications, giving full details of research and clinical experience, should be addressed to the Director, Wellcome Unit for the History of Medicine, 47 Banbury Road, Oxford OX2 6PE, and should be submitted before 8 April, 1978.

WARWICK
THE UNIVERSITY

S.S.R.C. INDUSTRIAL RELATIONS RESEARCH UNIT

GRADUATE RESEARCH IN INDUSTRIAL RELATIONS

Applications are invited for research assistantships (S.S.R.C. sponsored) available from 1st October 1978. Preference will be given to graduates in Economics, Sociology, Psychology, Industrial Relations Research Unit, University of Warwick, Coventry CV4 7AL. Tel. no. (0203) 24011 ext. 2376.

Closing date 22nd May 1978.

Research Posts continued

MEDICAL RESEARCH COUNCIL
Medical Sociology Unit, Aberdeen

RESEARCH SOCIOLOGIST

Applications are invited for the post of Research Sociologist. The person appointed will join a small research team to examine some features of the social process of ageing, particularly in relation to retirement, illness, impairment and death.
Applicants should be between 26 and 35 years of age with a good Honours degree in Sociology (or another social science) and at least 3 years relevant postgraduate experience.
A limited term appointment for 4 or 5 years will be made leading possibly to a permanent appointment. Salary on scales up to £8,655 a year, subject to age, qualifications and experience, Superannuation scheme.
Further particulars may be obtained from Professor Raymond Illsley, MRC Medical Sociology Unit, Institute of Medical Sociology, Westburn Road, Aberdeen AB9 2ZE, to whom applications should be sent by 31st March, 1978.

University of Oxford
WELLCOME UNIT
FOR THE
HISTORY OF MEDICINE

Junior Research Officer

Applications are invited for the post of Junior Research Officer in the Wellcome Unit with effect from 1 October, 1978. The appointment will be for one year, with the possibility of renewal for a further year. Candidates may be either medically or non-medically qualified. Salary will be according to age and qualifications on the scale £2,804 - £4,811. The person appointed will be expected to engage in independent research and to assist with research work and teaching in the history of medicine. Applications, including details of research intentions, a full curriculum vitae and the names and addresses of three referees, should be submitted to the Director, Wellcome Unit for the History of Medicine, 47 Banbury Road, Oxford OX2 6PE, to arrive no later than 7 April, 1978.

BIRMINGHAM
THE UNIVERSITY

UNIVERSITY OF ZAMBIA

HOME SERVICE LECTURESHIP IN TELECOMMUNICATIONS ADMINISTRATION AND MANAGEMENT STUDIES

Applications are invited for the post of LECTURER for a period of three years to teach in one of the following fields:—

The Administration of Urban and Rural Development.

Conservative Local Government.

Financial Management.

Personnel Management.

Public Enterprise Management

The first two years of the appointment will be spent in the Department of Political and Administrative Studies at the University of Zambia and the final year at the Institute for Local Government Studies at the University of Birmingham. The appointment will be supported by the International Telecommunication Union, its purpose for home-based posts.

Applicants should possess a good Honours degree in an appropriate discipline and appropriate experience including teaching in an institution of higher learning or training and research work in a third world country.

The salary at the University of Zambia will be in the scale K3,960 - K5,760 per annum (K1 equals approximately £1.1). Assistance with the British Government may be available to supplement the salary to the married couple to enable them to live in Zambia for those appointees normally free of all expenses and provide children's educational allowances and holiday visit passages where appropriate. The superannuation terms are those now under review. Family passages and certain other benefits are also provided.

The salary at Birmingham will be within the Lecturer scale £2,775 to £6,930 under review, plus superannuation.

Further particulars and application forms from the Assistant Registrar (Appointments), University of Birmingham, P.O. Box 363, Birmingham B15 2TT, to whom three copies of the form, naming three referees, should be returned by Friday, 7th April, quoting reference C/20/TRH.

Polytechnics continued

LONDON
THAMES POLYTECHNIC
SCHOOL OF ARCHITECTURE AND LANDSCAPE

ARCHITECT
(PRINCIPAL LECTURER)
(Head of Division of Architectural Design)

The School of Architecture and Landscape offers professionally recognised courses in architecture and landscape architecture and an Honours Degree in the undergraduate architecture course. Planning is under way for further Advanced courses and for Research. Applications for part-time academic appointments are also welcome.
The School is moving to South-East London, the Architecture courses to a building on the main Polytechnic site at Woolwich within London Borough of Greenwich.

Applications are invited from chartered architects with experience and ability in design for this important full-time post. The successful applicant will take charge of a senior lecture room and offer Advanced lecture courses relating to contemporary developments in practice. He will be responsible to the Head of School for developing teaching and research in Planning and for the organisation of divisional staff. Good architectural experience will be an advantage. Post available from 1st September, 1978.

Salary scale: £6,651 to £7,350 (under review) on APT&C grade. Inclusive, plus £977 Burnham award.

Further particulars and form of application may be obtained from the Staffing Officer, Thames Polytechnic, Wellington Street, London SE18 6PF, to whom completed applications should be returned by 10th April, 1978.

Librarians

DORSET
COUNTY COUNCIL

DORSET INSTITUTE OF HIGHER EDUCATION
Wallisdown
LEARNING RESOURCES

SENIOR ASSISTANT LIBRARIAN
(Post HEB 25)
Bournemouth

Due to promotion applications are invited for this post in the Learning Resources Centre of the Wallisdown site of the Bournemouth site.

The main duties of the post include supervision of all reader services, staff control and training, and responsibility for all administrative processes of the L.R.C.

Candidates must be Chartered Librarians, with supervisory experience, preferably in Academic Libraries, and with enthusiasm for the role of the Library in Higher Education.

Salary within Grade APS, £4,545 by increments to £5,613 (inclusive of supplements).

Application forms returnable by March 31 and further details from Chief Administrative Officer, Dorset Institute of Higher Education, Hillsdown Road, Poole BH12 5HH.

General Vacancies

WORKERS' EDUCATIONAL ASSOCIATION

Applications are invited for the post of DISTRICT SECRETARY, Workers' Educational Association, South Eastern District. Candidates should have administrative and organising experience, and preferably some knowledge of the organisation and structure of adult education and professional and/or voluntary experience in the W.E.A. and/or other voluntary organisations.
Salary scale £5,784 to £7,053. Commencing salary according to age, qualifications and experience. Further details and application form from the District Secretary, W.E.A., South Eastern District, 4 Castle Hill, Rochester, Kent ME1 1QQ. Closing date for applications: 7th April, 1978.

AN EXCEPTIONAL OPPORTUNITY
THE JOHN MARLEY-HOP SCHOOL FOR CRAFTSMEN IN WOOD

Requires a Specialist FURNITURE DESIGNER with practical experience of leading a workshop to assist with the direction of independent decision-taking from Autumn 1978.
Tel. Bridgwater (0278) 6221 for further details.

General Vacancies

TUTOR

MANAGEMENT STUDIES
within £5,105-£7,655 p.a. inc.

We have a vacancy for a Tutor at our Staff College in Buxton, Derbyshire, and are looking for a person who will participate in providing general management training courses. This person will have to offer a proven ability in financial subjects, particularly in the field of budgeting, and also be able to teach in two of the following subject areas: economics, quantitative management techniques, communications, behavioural studies.

The successful candidate will have four major responsibilities: to act as course manager for a number of courses; to teach the specialist subjects; to prepare supporting training material e.g. case studies, booklets, etc., and to assist the widening development and research work undertaken by the Staff College. Initially most of the tutorial time will be spent servicing residential general and modular management courses.

Applicants must be graduates or professionally qualified, preferably with a post graduate management qualification. Several years of industrial or commercial experience is essential. Knowledge of the structure, management practice and organisational processes of a major industrial concern would be an advantage. Adult teaching experience either part-time or full-time in management subjects at a college or industrial training centre is essential as is experience of applied training techniques and skills. Candidates must be articulate, able to debate and present a case, skilled in counselling and process observation, and capable of conceptual work of a high level.

A person with substantial management or management teaching experience would be appointed within the salary range £6255-£8175 p.a. inclusive. Otherwise the salary for this appointment will be within the range £5625-£7375 p.a. inclusive.

Applications stating full relevant details and present salary to the Personnel Officer (Headquarters), **CENTRAL ELECTRICITY GENERATING BOARD**, Sudbury House, 15 Newgate Street, London EC1A 7AU by 29 March 1978. Quote Ref. TE/63.

CHRISTIE'S
FINE ARTS
COURSE

Tutor/Lecturer

The Directors of Christie's Fine Arts Course invite applications for this new permanent post, which may be at senior or junior level. The Course, based in South Kensington, London, gives academic and practical instruction in the history and collecting of the fine and decorative arts to students whose ages, expertise and nationalities are widely varied. The tutor/lecturer will work closely with three other permanent tutors and with Christie's experts, and must be capable of teaching in formal lectures and small tutorials at graduate and post graduate level. A genuine enthusiasm for teaching and wide practical knowledge, particularly of the decorative arts of the last 350 years is essential. Terms and conditions of employment will be similar to those in universities. Those applicants with experience of university, museum or other professional education will be favourably considered but such a background is not a prerequisite. The Course starts in the Autumn 1978 and applicants will be expected to show the ability to contribute imaginatively to a new project.

Please write in the first instance to Robert Cumming, Christie's Fine Arts Course, 8 King Street, St. James's, London, S.W.1 by April 15th.

Colleges of Educatio

CHELTENHAM
CHURCH OF ENGLAND COLLEGES

The Council of the C... of England Colleges in C... Institute, Cheltenham, ... decision to amalgamate ... Culham College (for men ... St. Mary's College (for ... women) as from a single ... College of St. John and St. Mary, invite applications for ... suitable qualified ... Western CHAIR OF ... post of PRINCIPAL of ... Mid College.

The Council hopes to ... in June, 1978, and the ... successful applicant will be ... available from January 1, 1979, or ... 1979, and to take office at ... of the merged College ... September, 1979.

Further particulars and ... of application may be obtained from the Clerk to the C... H. St. Paul's College, ... don Road, Cheltenham.

BOLTON
BOLTON COLLEGE OF EDUCATION (TECHNICAL)
HEAD OF EXTENSION STUDIES UNIT

To play a key role in promoting and co-ordinating the college's programme of ... conferences, short courses ... workshops for teachers ... ther and higher education.

The person appointed will be expected to make a contribution to the teaching in the college. Salary scale, £6,645 to £7,155 (late to £8,031).

Further details and application form from Administrative Officer, Bolton College of Education (Technical), Chadwick St., Bolton BL3 6JW (tel. 0204 24399). Closing date April 3, 1978.

LONDON
GUY'S HOSPITAL MEDICAL SCHOOL
SALISBURY

Secretary required as soon as possible to take over responsibility and personality of an Assistant, dealing with the selection of 200 post graduate medical and dental students and Overseas ... Experience of ... UCCA ... system an advantage. Knowledge of ... Salisbury useful. Applicants should preferably be under 25 years of age, be used to ... typing and be able to ... correspondence on their own initiative.

Salary according to qualifications and experience.

Apply in writing, giving full details of experience, to Mr. J. ... Tutor, Guy's Hospital Medical School, London Bridge, London SE1 9RT. Newcastle upon Tyne NE1 6JL.

THE WORKERS' EDUCATIONAL ASSOCIATION
NORTHERN DISTRICT

Temporary post of one year's duration, TUTOR ORGANISER in West Cumberland from 1st August, 1978. An appropriate salary will be payable on the present Scale £5,076 to £6,030 (inclusive of supplements). Facilities will be provided for the use of a car and an ... allowance is payable.

Applicants must be graduates or have ... and experience ... Further details: Administrative Officer, W.E.A. (Northern District), 9 Grainger Street, Newcastle upon Tyne NE1 5JE.

Awards

DEPARTMENT OF EDUCATION

POSTGRADUATE BURSARIES

Postgraduate Bursaries will be awarded to selected students for the academic year 1978/79 for certain full-time courses (excluding courses of teacher training) which are predominantly postgraduate in content, and which lead to Certificates or Diplomas. Applicants must be ordinarily resident in Northern Ireland and should hold or hope to obtain a degree or equivalent qualification.

Applications should be made as follows:

Quota awards tenable at Institutions in Northern Ireland

The appropriate department of the university or college where the award will be tenable will provide application forms to students offered quota places. Completed forms should be forwarded, through the university or college, to the Department of Education not later than August 1, 1978.

Pool awards tenable at Institutions outside Northern Ireland

Application forms PGB1 and further information may be obtained from: Department of Education, Postgraduate Awards Branch, Rathgael House, Balloo Road, Bangor, Co. Down BT19 2PR. Telephone Bangor 66311, ext. 395 or 438.

The closing date for receipt of completed application forms for pool awards is May 2, 1978. Applications received after this date will not be considered. Applications may be submitted in anticipation of the results of degree examinations.

IMPORTANT

Postgraduate Bursaries awarded by the Social Science Research Council, The Scottish Education Department and Department of Education and Science are not available to students ordinarily resident in Northern Ireland.

Awards for postgraduate teacher training courses are not made under the postgraduate bursary scheme.

Overseas

HONGKONG POLYTECHNIC

Applications are invited for the following post tenable from August 1978.

HEAD, Department of Institutional Management and Catering Studies c.£13,862

Salary will be within a range but not less than HK$124,200 p.a.

- 25% gratuity on salary
- Low tax rate
- Free passages
- Generous leave
- Free medical treatment
- Subsidised accommodation
- Education allowances
- School passages

The Department is to be established in 1978/79 and will be a constituent member of the Division of Commerce and Design, supervised by the Associate Director. It is planned to have the Department in full operation in 1979/80, offering a Higher Diploma, a Diploma and part-time Higher Certificate programmes. The majority of which it is intended will be on a modular basis with evening classes in the hospitality services industry and institutional establishments. The Department will co-operate closely with its counterpart in a Government Technical Institute and ensure that the course curricula caters for the needs of Hong Kong.

The successful candidate will be required to organise the new Department, plan and develop its teaching programmes and facilities, in preparation courses or courses as may be required by other Departments, to participate fully in the work of the Division and promote effective communication with industry and the community.

Applicants should have

(a) a recognised degree or professional qualification relevant to the field of study and

(b) appropriate training and experience in the full range of hospitality services, both residential and catering in establishments such as hotels, holiday camps, youth centres, etc. and

(c) preferably at least five years experience in a professional capacity in the hospitality and catering industry and five years experience in tertiary education preferably at Principal Lecturer or equivalent level, or a combination of both industrial and teaching experience with a total of not less than ten years and

(d) proven organisational and administrative experience.

Appointment will initially be on gratuity bearing terms. The final contract being for four years but suitable candidates may, at the discretion of the Polytechnic, be considered for conversion to superannuable terms after two years of service if they so wish.

For application form and further details, contact the Recruitment Unit, H.E.K. Division of Education and Training Organisation, 1st Floor, Centre 3, 3/F Government Offices, Gordons, London SW1W 0HX (tel. 730/8383). Closing date for receipt of applications: 31 March 1978.

Tefoc

THE NEW SOUTH WALES INSTITUTE OF TECHNOLOGY
SYDNEY, AUSTRALIA
FACULTY OF ARCHITECTURE & BUILDING

LECTURER IN BUILDING ECONOMICS

$A14,851-$A19,551 p.a.

The New South Wales Institute of Technology is a corporate body established to provide a wide range of professional courses for those entering or already employed in industry, government or technological fields.
The Faculty of Architecture and Building conducts professional, vocationally orientated degree courses in Architecture, Building and Quantity Surveying, all of which are fully recognised by the appropriate professional bodies and industry registration authorities. The academic establishment is 31 and the number of students 550. The post of Lecturer in Building Economics is within the Department of Quantity Surveying. The successful applicant would be expected to contribute substantially to the development and teaching of this area within the courses of the Faculty and to assist in further development of the Quantity Surveying degree course. The person appointed could also be expected to offer other subject areas such as Economics, Statistics, or Professional Practice and would not normally teach the taking-off of quantities, except perhaps in specialised areas such as Building Services.
Applicants should possess an appropriate degree and professional qualification and would probably although not necessarily have a Quantity Surveying background.
Dr. D. G. Perry, IF.R.I.C.S., A.I.Q.S.), Head of Department and Dean, Faculty of Architecture and Building, will be in London for interviews in mid-April, 1978, and will be available to Academic Staff are permitted to undertake limited consulting work with Council approval.
Fares and a contribution toward removal and initial accommodation expenses are provided for overseas appointees. A Housing Loan Scheme is also available.
Applications close on April 7, 1978. Applicants should arrange for three confidential referees' reports to arrive by the same date. Written applications should include address, phone number, personal particulars, evidence of qualifications, work and teaching experience, affiliations, publications, the referees contacted. Applications and referees' reports are to be sent to:

The Agent General for N.S.W.
New South Wales Government Offices
66 The Strand, London WC2N 5LZ, England

THE BRITISH COUNCIL

OVERSEAS TEACHING POSTS

DIRECTOR, LANGUAGE TEACHING INSTITUTE
(QATAR)

Duties/aims: Directly responsible to English or Modern Language with Postgraduate DELTA qualification and substantial experience required for September 1978.
Duties: To be responsible for the administration of the Government institute and its organisation of language courses for Government employees.
Salary: Tax-free plus local tax benefits. Free furnished accommodation. Assisted allowance / annual passages paid for wife + 3 year contract, renewable. 78 WU 19

10 ENGLISH LANGUAGE INSTRUCTORS
(KUWAIT)

Kuwait University. Selection to be made in April 1978. Native speaker of English with BA in TEFL/TESL/Applied Linguistics required. Specialisation in ESP/EST desirable. Candidates should have at least 3 years teaching experience.
Salary: KD 1,744-4,032 pa (current rate of exchange approx. KD 0.6 equals £1). There is no income tax in Kuwait.
Benefits: free furnished accommodation; 1 year contract, normally renewable. 78 WU 26-34

LECTOR IN ENGLISH FOR SPECIAL PURPOSES
(YUGOSLAVIA)

University of Ljubljana. To teach to hold English to university students at science and technology Degree and TEFL qualification essential, postgraduate qualification in Linguistics desirable. The candidate should have an interest in, or experience of, materials production or ESP. Substantial experience of TEFL overseas essential and teaching experience would be an advantage. Preferred age 30-40.
Salary: 6,000-7,000 new dinars per month (approx £ of exchange £/NDN22). The salary is non-taxable. Additionally an annual subsidy of £1,244 paid by the British Council in the UK.
Benefits: free medical service; employer's portion of superannuation; paid holiday passages for wife and children under 21 per year; contract, renewable. 77 WU 118

PRINCIPAL LECTURER/HEAD OF ENGLISH DEPARTMENT
(BAHRAIN)

Gulf Technical College, Isa Town. Responsible for all staff and the development of English courses in the College. Degree + TEFL qualification and substantial teaching experience and administrative duties.
Candidates, men only, probably over 40 years of age and have British educational background and postgraduate TEFL qualification. Experience should include departmental headship in College of Technology or equivalent.
Salary: in excess of holder's present salary; not less than £9,870 pa.
Benefits: free furnished accommodation; electricity and children's allowances 2 year contract with Ministry of Overseas Development. 77 AS 09

ASSISTANT DIRECTORS OF STUDIES (2) AND SIXTEEN TEACHERS
(GERMANY)

British Council Language Centre Munich. A new British Council centre in southern Germany about 2,000 adult students at all levels including Cambridge, FSA and London Chamber of Commerce.
Assistant Directors of Studies
Required from July 1978 (or earlier) to organise and train teachers, evaluate and design materials and run the teaching centre. Some administrative duties.
Qualification required: Degree (preferably in modern language), postgraduate diploma in linguistics or TEFL, some experience, preferably including staff, materials production and administration.
Salary: DM 17,000 tax-free plus Benefits: Assisted allowance, accommodation allowance = £4,000 pa (single) - £7,400 pa (married, no children). Superannuation.
78 UO 18-19

Sixteen Teachers
Required from September, 1978, to teach English of all levels from beginners to advanced. Pre-teaching and in-service training for single candidates, or married couples without children both qualified to apply for this salary request. Degree (preferably in English or Modern Language), 2 years post-degree of teaching EFL. Postgraduate training in TEFL and experience of EFL essential.
Salary: DM 2,246-3,918 tax-free plus Benefits: Assisted accommodation allowance, paid holiday and superannuation allowance of £1,200 pa.
Benefits (all posts): Personal allowance; employer's share of national insurance, travel and baggage 2 year contract, renewable.
78 UO 20-25

LECTURER IN ENGLISH
(BRAZIL)

Federal University of Paraiba, Joao Pessoa (Paraiba). Required for August, 1978.
Duties: to teach English Language to undergraduate and postgraduate students.
Qualifications: MA in English or Applied Linguistics and at least 2 years' relevant experience. PhD highly desirable. Preferred age range: 35+.
Salary: Cr$ 5,848-5,818 pa
Benefits: Overseas allowances; free accommodation; medical scheme; employer's portion of superannuation; 2 year contract, renewable. 78 WU 23

HEAD OF SCIENCE
(GHANA)

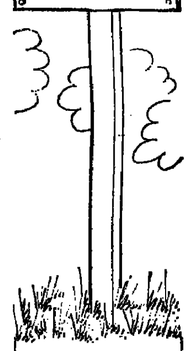
St. Paul's Secondary School, Denu. To teach Physics to 'A' level and General Science to 'O' level and organise the Science Department. Degree in Physics or with a Physics component and 5 years' teaching experience including 'A' level Physics teaching essential. Teaching qualification and Head of Department experience desirable.
Salary: £4,010-£5,560 pa
Benefits: Include free furnished accommodation; passages and children's allowances and superannuation. 2 year contract, probably renewable. 78 RS 8

ASSISTANT PROFESSOR (TEFL)
(LEBANON)

American University of Beirut, English Education and Education Department
Duties: To teach, with other staff, courses in TEFL/Applied Linguistics to postgraduate students (Qualifications: PhD or MA in Linguistics and relevant experience overseas ELT qualification desirable. Preferred age range: over 35.
Salary: £4,660-5,810 pa
Benefits: Overseas allowances; free accommodation; medical scheme; employer's portion of superannuation; 2 year contract renewable. 78 BH 24

Return fares are paid. Local contracts are guaranteed by the British Council. Please write briefly stating qualifications and length of appropriate experience, quoting relevant number and title of post, for further details and application form to The British Council (Appointments), 65 Davies Street, London W1Y 2AA.

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Closing date 7th April, 1978. For application contact 10 Southampton Street, London, WC2E 7HF (phone 01-836 7788, Ext. 29).

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THE DIRECTOR,
Torrens College of Advanced Education,
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